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A Lecture

ON

ACUTE AND CHRONIC SUPPURATION OF THE NASAL ACCESSORY SINUSES:

ETIOLOGY, DIAGNOSIS, AND TREATMENT FROM THE POINT OF VIEW OF THE GENERAL PHYSICIAN AND SURGEON.

Delivered before the Medical Society of London on Oct. 23rd, 1911,

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[FOLLOWING some introductory remarks, Mr. Herbert Tilley pointed out that the mucous membrane of the nasal cavities was continuous with that lining the accessory sinuses (Fig. 1), and that acute inflammation of the former was practically always associated with a simultaneous inflammation of the accessory cavities, but a similar combination was less frequently met with in chronic suppurations because spontaneous resolution of acute inflammation occurred more readily in some of the sinuses than in others. The main anatomical features of the maxillary antrum were dwelt upon and were illustrated by diagrams, specimens, and lantern slides. Infection of the sinus by a diseased molar or bicuspid tooth was readily explained when the apex of the root reached close to the floor of the antrum, and this was frequently the case.]

ACUTE INFLAMMATION OF THE MAXILLARY ANTRUM.

In the majority of instances this condition is caused in one of two ways—(1) infection by way of the nose occurring in the course of acute specific fevers, and of this type influenza provides the greatest number of cases; (2) infection from the septic pulp of a diseased tooth. Facial erysipelas has been said to cause antral suppuration, but I am of opinion that repeated attacks of facial erysipelas are frequently due to infection by pyogenic organisms derived from suppuration of the antrum or other sinuses. Traumatisms account for a certain smaller number of acute antral inflammations, and here the careless use of the galvano-cautery or other intranasal operations, as well as unskilful or unclean dental extractions, add their undesirable quota.

Symptoms.—The symptoms vary according to the source of infection. Should the local inflammation complicate an acute systemic infection a considerable degree of pyrexia and severe pain in the cheek and its neighbourhood will be prominent symptoms. If the infection is caused by a tooth severe toothache and alveolar abscess might precede the antral symptoms and subside when the foul discharge from the nose takes place. Whatever the source of infection may be an examination of the corresponding nasal cavity will frequently reveal the presence of pus in the middle meatus.

Prognosis.—When the antral inflammation complicates a general systemic infection the inflammation of the mucous membrane is more general and intimate, and probably the patient's resistance is lower than when the suppuration is caused by a tooth, and hence the prognosis is less favourable from the point of view of rapid recovery in the former than in the latter and more local infection.

Treatment.—This will necessarily depend on the source of infection. If the antral inflammation complicates a constitutional infection—e.g., influenza—in addition to the treatment of the general disease every endeavour should be made to promote the spontaneous discharge of pus from the antrum. To this end the patient should rest in bed with the infected sinus uppermost, and every hour or two hours an application of equal parts of 10 per cent. cocaine and adrenalin chloride should be applied on cotton-wool mops to the middle meatal region. This will induce contraction and ischæmia of the mucosa and promote the free discharge of pus from the "ostium" in the middle meatus. Hot fomentations to the affected cheek and 10-grain doses of aspirin every four hours will go far to alleviate local pain and discomfort.

Should the symptoms persist in their severity the antrum should be punctured by trocar and cannula passed through the middle meatus or below the inferior turbinal and irrigated with warm normal saline solution or boric lotion; and I need scarcely say that the necessary manipulations can only be carried out with safety and a minimum of discomfort to the patient by those skilled in intranasal surgery. The irrigations may have to be repeated daily for a week or ten days.

When a diseased tooth is the cause of trouble it should be removed, the alveolus perforated, and a temporary alveolar plug inserted. The antrum can then be irrigated twice daily until the inflammation has subsided, when the alveolar passage may be allowed to close.

If bacteriological examination of the pus should prove that one organism is present or is in great predominance, an autogenous vaccine may assist and prove a valuable adjunct in treatment, but we must remember that, as a rule, acute cases tend to recover quickly and that a favourable result when a vaccine is used may be *post*, but not entirely *propter*, *hoc*.

CHRONIC ANTRAL SUPPURATION.

This is generally due to causes which hinder resolution of the acute inflammation and the most potent factors are those which obstruct free drainage such as an enlarged middle turbinal or deviation and irregularities of the nasal septum. In other instances the persistence of the discharge may be due to the virulence of the primary infection which has so damaged the lining membrane of the antrum that resolution has failed to take place. Furthermore, the type of organisms present may influence the chronicity of the inflammation (*vide infra*). Again, in the case of a diseased tooth the original focus of infection may remain.

I believe that sometimes chronic suppuration may slowly but ultimately graft itself on to a mucous membrane which has been in a state of simple chronic catarrh for a long while.

Symptoms.—These are: 1. A purulent or muco-purulent discharge from the nose nearly always described by the patient as "nasal catarrh." He may also complain of an offensive smell, or an unpleasant taste if the discharge passes backwards into the throat. 2. A certain amount of nasal obstruction caused by irritation and consequent swelling of the nasal mucosa. Not infrequently polypi are present in cases of long standing, and their presence indicates inflammation of the ethmoidal cells. 3. Headache, often supraorbital in position and not infrequently most marked in the earlier hours of the day.

Cough, liability to head colds, anæmia, indigestion, general debility, anorexia, mental depression are other symptoms which may be met with, and are possibly due to the irritation or absorption of the purulent discharge.

Finally, it has been shown that in certain cases of chronic antral suppuration there is a general contraction of the visual field. In other instances affections of the conjunctiva have been clearly traced to infection from the nose or antrum by way of the lacrymal canal and sac.

Bacteriology.—The very careful and exhaustive researches of Logan Turner and C. J. Lewis[1] have shown that four main types of cocci are generally responsible for chronic antral suppuration—viz., pneumococci, streptococci, staphylococci, and diplococci of the type of micrococcus catarrhalis, and that in recent cases the streptococci were virulent in 60 per cent., but only 30 per cent. were virulent in chronic suppuration.

Diagnosis.—Emphasis must be laid upon the importance of always suspecting sinus suppuration when a patient complains of *chronic nasal catarrh*, and especially so if pus is contained in the nasal mucus or if the handkerchief is found to be stained by it. A "morning headache" in a patient who has lived in malarial climates might easily lead to ineffectual dosing with quinine, when a little care might lead to the detection of antral suppuration. A positive diagnosis of the latter can be made by the detection of pus in the middle meatus, by transillumination of the antra or puncture of the sinus by a fine trocar passed through the inner antral wall—a proceeding which is almost painless when skilfully carried out.

Prognosis.—If the suppuration be of long standing it is improbable that any procedure short of operation will effect a cure, because the lining mucous membrane has undergone

[1] Edinburgh Medical Journal, April, 1910.

gross degenerative changes and excessive secretion has then become its normal function.

Cases of dental origin as a rule do better than those of intranasal origin, because the mucous membrane is less intimately infected.

When nasal polypi and therefore ethmoidal inflammation accompany antral suppuration the prognosis will be less favourable unless radical surgical measures are carried out.

Treatment.—Change of air, internal medication, and nasal washes are quite useless and are a waste of time and money, for they cannot remedy such a gross degeneration of the mucous membrane as is illustrated in the diagram taken from an ordinary case of chronic antral suppuration. Neither have I seen much success with vaccines, even when administered by the high priests of vaccine therapy. The infection is practically always a mixed one, there is a high degree of mucous membrane degeneracy, and drainage is nearly always obstructed. On the other hand, if only one organism be present or largely predominate, then vaccine therapy might be given a trial or used as an adjuvant in treatment.

Two methods for the cure of chronic antral suppuration may be considered. 1. Lavage or irrigation through the inner antral wall. By this means a small proportion of chronic cases may be cured, and bacteriology may give us a hint as to the type of case which may be benefited, for Lewis and Turner's researches show that "chronic cases in which no streptococcus pyogenes is found in the pus more readily respond to lavage than those in which the same organism is present," and also that lavage is more successful when a small number of lymphocytes are present than when an excess occurs. 2. Surgical measures. When these are contemplated the operator should endeavour (*a*) to remove diseased mucous membrane, and (*b*) to provide free, unhindered, spontaneous, and permanent drainage. To secure these ends two methods find favour. 1. A large opening is made, by way of the nose, in the inner antral wall after a preliminary removal of the anterior two-thirds of the inferior turbinal. Through such an opening daily irrigation may be practised by surgeon and patient until suppuration ceases. (Fig. 2.) 2. A similar opening in the inner antral wall, but the sinus is first entered through the canine fossa. (Fig. 3.) This is known as the Caldwell-Luc operation, and I believe it to be the better method because the surgeon can see into the affected region and remove only those parts which are diseased. Little recesses and pockets which serve as foci for suppuration are thus rendered visible, which is not the case when the antrum is opened by way of the nasal cavity. I have given each method a long and extensive trial, and am firmly convinced that the canine fossa route is the better for the large majority of chronic cases, while for a minority the intranasal route may be advisable and may be attended by completely successful results. The latter may be adopted when for any reason the more severe operation is contra-indicated, because the intranasal opening may quickly be made under local anæsthesia or a combination of local anæsthesia with that induced by ethyl chloride or nitrous oxide gas.

Alveolar drainage.—The attempt to cure chronic antral suppuration by drainage through the buccal socket of a bicuspid or molar tooth must be unsparingly condemned, because, in the great majority of cases, the suppuration is only relieved and not cured. The tube or plug, whether it be of gold or vulcanite, rarely drains the suppurating cavity, it allows all sorts of organisms and particles of food to gain access to the antrum from the buccal cavity, and the long-continued daily irrigation is an intolerable nuisance to the patient.

ETHMOIDAL SUPPURATION.

The diagrams, lantern slides, and specimens will show how very complicated is the gallery of cells which form the "lateral mass of the ethmoid." (Fig. 4.) We note its intimate relation to the frontal bone above, to the orbit on its outer side, the sphenoidal sinus behind, the inner and upper wall of the antrum below, and the close relation which its posterior group of cells may bear to the optic nerve. Not less important than these relations is that part of the ethmoid bone which forms the cribriform plate. I cannot dwell in any detail on the anatomy of this complicated bone, which varies to such a degree that it is almost impossible to speak of a normal type. Its cells frequently spread outwards below the frontal sinus till they reach the external angular process of the frontal bone, or backwards to the small wing of the sphenoid; posteriorly they are in close union with the sphenoidal cavity, and inferiorly they may spread outwards below the orbit in the inner portion of the roof of the antral cavity. When suppuration occurs in the anterior ethmoidal cells a similar condition is nearly always present in the frontal and antral sinuses.

The diagnosis, prognosis, and treatment of chronic ethmoidal suppuration cannot be dealt with now, for it would involve the description of complicated anatomical details and surgical technique. Suffice it to say that when ethmoidal suppuration is present the symptoms involve a purulent nasal discharge, a varying amount of nasal obstruction due to polypoid and hypertrophic degeneration of the ethmoidal mucous membrane. Local pain and discomfort in the nasal, lower frontal, and orbital regions are usually present, and not infrequently patients are subject to considerable mental depression and incapacity for mental exertion.

Ethmoidal suppuration is of importance because of the grave complications to which it may give rise. Should caries of a cell or cells take place with an extension of inflammation to the orbital contents sad results to the eye and eyesight may rapidly ensue. In other instances eyesight may be damaged or even lost by a slower inflammation of the optic nerve caused by the spread of inflammatory changes or infective conditions from the posterior ethmoidal cells, where they are in close relation with the optic nerve. More frequently posterior ethmoidal cell suppuration causes temporal contraction of the visual field, while general contraction is more common when the anterior cells are affected. This subject has been recently receiving a good deal of attention, and Professor Onodi of Budapest has added much to our knowledge in these matters. Still more serious are the meningeal inflammations which are not infrequently the outcome of chronic ethmoidal suppuration, and to those who constantly work in this department of surgery it must be a matter of surprise that these foci of suppuration so close to the brain and its meninges do not more often produce fatal results.

With regard to treatment I would only say that it is obviously surgical in nature, and that the great principle which should guide the operator is so to remove diseased structures that free intranasal drainage shall be permanently secured.

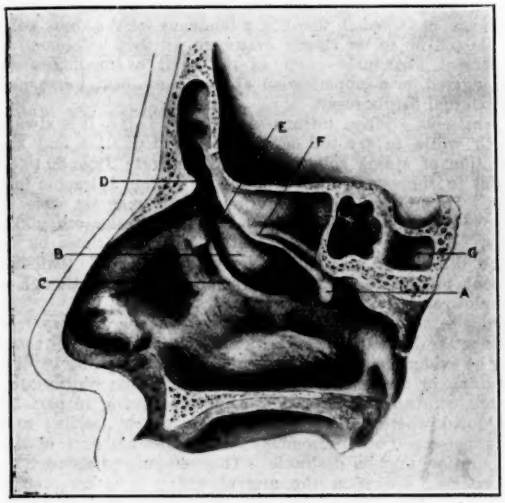
I make no apology for claiming that operative procedures in these regions should only be undertaken by those who are thoroughly conversant with the anatomy of the regions involved and who are skilled in the difficult technique of intranasal surgery. These regions are dark and must be well illumined so that the eye of the operator can see the end of his instrument. The parts are vascular, so that the surgeon must be prepared with means of checking the constant oozing of blood, and he must have patience to wait for a comparatively dry field in which to proceed with his manipulations. The bony structures are often soft and friable, and hence he must use no force in dealing with them. Vital structures are in close proximity to the limited area of operation, and hence the surgeon must have an almost instinctive knowledge of his whereabouts, and he should never be happy unless he feels that to the instrument which he holds in his hand there has been conveyed a tactile sensibility which is part and parcel of his own.

FRONTAL SINUS SUPPURATION.

[Some beautiful diagrams and lantern slides of the frontal sinuses were shown at the meeting illustrating their extreme variability in size and their relation to the orbits and meninges. (Figs. 5 and 6.) In some instances the sinus extended externally to the temporal region and backwards to the posterior limit of the orbit, and a patient was shown in whom at the time of operation the whole roof of the orbit and the posterior wall of the sinus had been destroyed by chronic suppuration, so that the orbital contents and the dura mater helped to form the walls of a large abscess cavity. The patient complained only of "seeing things double," and had never experienced any headache or other inconvenience.]

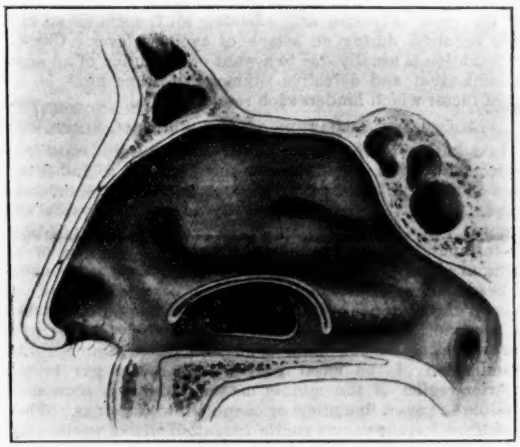
Frontal sinus suppuration may be acute or chronic. Acute inflammation is generally a complication of one of the acute specific fevers, and of these influenza accounts for more cases than all the other fevers together. I have seen cases complicating scarlet fever and they resembled in their acuteness

FIG. 1.



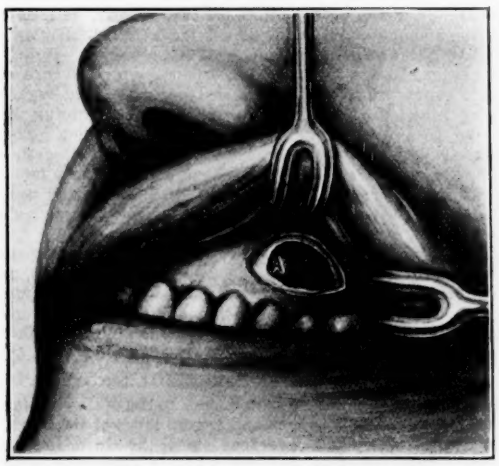
View of outer wall of right nasal fossa after removal of the middle turbinal from specimen dissected by lecturer. A, Cut attachment of the posterior end of the middle turbinal. B, Ethmoidal bulla. C, Uncinate process forming lower lip of hiatus semilunaris. D, Fronto-nasal canal. E, Opening of anterior ethmoidal cell. F, Line of attachment of middle turbinal (removed); immediately below this is seen the opening of the ethmoidal bulla into the middle meatus. G, Left sphenoidal sinus passing behind the right. (From Tilley's "Diseases of Nose and Throat." London: H. K. Lewis.)

FIG. 2.



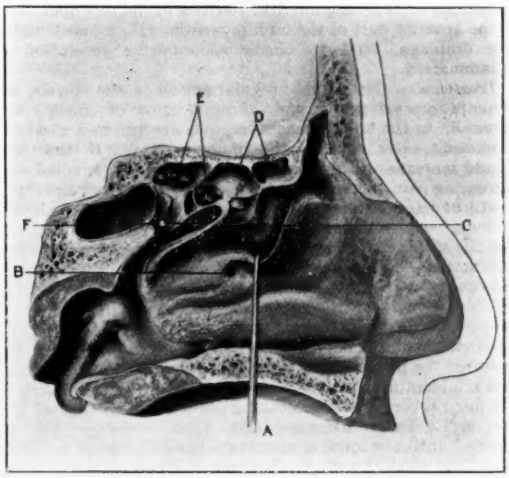
The anterior two-thirds of the inferior turbinal has been removed and an opening made in the inner antral wall.

FIG. 3.



Caldwell-Luc operation. An opening is made through the canine fossa before removing A, the lower portion of inner antral wall.

FIG. 4.



A specimen dissected by lecturer illustrating the complicated cells forming lateral mass of the ethmoid. A, Hook drawing down the inner lip of the hiatus semilunaris to show normal "ostium" or opening of maxillary antrum into the middle meatus of the nose. B, Accessory antral opening. C, Opening of ethmoidal bulla into middle meatus. E, D, Posterior ethmoidal cells opening into superior meatus. (From Tilley's "Diseases of Nose and Throat." London: H. K. Lewis.)

FIG. 5.

Frontal sinuses of normal size.

FIG. 6.

Large left and small right frontal sinuses. Incomplete bony septa are seen in the left sinus which tend to divide that cavity into separate chambers or recesses. The left sinus extends considerably over to the right side and might easily be entered when operating on the right frontal sinus. (Figs. 5 and 6 kindly lent by Dr. Logan Turner, Edinburgh; *vide* "Accessory Sinuses of Nose," by same author. Wm. Green and Sons.)

and destructive nature the inflammations which are so commonly met with in the ear and the mastoid regions. One of the most extensive and affecting all the sinuses on each side occurred during an attack of typhoid fever. Chronic suppuration is usually due to a want of resolution of an acute inflammation and defective drainage of some kind is the chief factor which hinders such resolution.

ACUTE INFLAMMATION OF THE FRONTAL SINUS.

In addition to the symptoms of the general disease from which the patient is suffering we should expect to find severe pain above and around the eye on the side of the inflamed sinus. Often the pain induced by pressing upwards and inwards below the inner end of the eyebrow is excruciating. If intranasal drainage is free there may be little or no external signs suggesting that an inflamed sinus is the cause of headache, but if such drainage be obstructed redness and œdema of the upper eyelid and neighbouring soft parts may be very noticeable. The degree of pyrexia will vary with the amount of tension under which the pus is retained. An examination of the nasal cavity may reveal pus in the anterior region of the middle meatus, and it is sometimes possible to pass a fine probe or cannula into the sinus. When such good fortune occurs gentle irrigation with a warm, mild antiseptic will give great relief to the local symptoms.

Prognosis.—Most cases of acute frontal sinus suppuration recover spontaneously, probably because free drainage from the lower end of the sinus is naturally provided for. Septal deviations or hypertrophic irregularities in the neighbourhood of the anterior part of the middle meatus will, by obstructing free drainage, tend to check spontaneous resolution or inflammation.

Treatment.—Rest in bed, regular action of the bowels, hot fomentations externally, and the application of cocaine and adrenalin to the middle meatal regions are the best means of promoting subsidence of the inflammation. If the pain should increase and œdema of the eyelid appear, coupled with increasing pain on pressure over the anterior wall of the sinus, it will be wiser to adopt surgical measures. Possibly it will suffice to remove the anterior end of the middle turbinal and free the lower end of the fronto-nasal duct from any definite obstructions—this can only be done under general anæsthesia and needs care and special experience. It may then be possible to irrigate the sinus and quickly induce relief of symptoms. If the intranasal method affords no improvement, the sinus should be opened externally through the line of the eyebrow, the pus carefully washed out, and the fronto-nasal duct rendered patent by means of gentle probing or insertion of a fine rubber tube which can be removed in the course of a few days. Daily irrigation and light dressings will be required until the mucous membrane has returned to a normal condition, when the external wound may be allowed to close.

CHRONIC SUPPURATION OF THE FRONTAL SINUS.

Low resisting power of the patient, a virulent infection, and especially defective drainage are factors which tend to an acute inflammation becoming chronic.

Symptoms.—A purulent nasal discharge possibly associated with headache in the neighbourhood of the sinus are often the only symptoms complained of. Since the anterior and even the posterior ethmoidal cells are frequently in a similar condition of chronic inflammation and suppuration, polypi with consequent nasal obstruction and excessive discharge of mucus may be additional symptoms.

Diagnosis.—An inspection of the nasal cavity may reveal pus in the anterior region of the middle meatus. Frequently it will be possible to pass a fine cannula into the sinus, and if air be now injected the pus may be seen issuing by the side of the cannula where it disappears from view in the higher regions of the nose. A frontal skiagram of the inflamed sinus will show it to be more opaque than on the healthy side, and this means of diagnosis has a further advantage in that, if a profile view be taken, we can gauge the depth of the sinus from before backwards and thus estimate the probable amount of deformity if an external operation be decided on—a matter of some importance if the patient is a female.

Prognosis.—Once chronic suppuration is established in the frontal sinus, cure is not easily brought about without intra- or extra-nasal surgical treatment. I have had a few cases in which frequent irrigation and injection of strong astringents and antiseptics have been followed by a cure, but they are the exception rather than the rule, and this happy result is probably due to very free drainage of a sinus possessing a regular contour in which there are no pockets or recesses where pyogenic organisms can lurk and flourish. When drainage is impeded there is a tendency for the sinus walls to expand or to be slowly destroyed, so that neighbouring important structures such as the orbit or meninges are endangered, or a subperiosteal abscess may form, burst, and an external fistula result.

Treatment.—When intranasal drainage is free it is always worth while to try the effect of daily irrigation and the injection of strong solutions of silver nitrate, from 60 to 80 grains to the ounce, or of tincture of iodine, 1 drachm to a pint. To promote such free drainage it may be wise to remove the middle turbinal and some anterior ethmoidal cells. By such means suppuration may sometimes be so much diminished and other symptoms relieved that the patient prefers to let matters remain thus, even though a complete cure has not been attained.

On the other hand, there are many instances where free drainage is difficult to secure by intranasal methods, or there may be evidences that the inflammation is extending beyond the sinus, or the patient may be suffering from profuse discharge, constant headaches, or he may be going to parts of the world where skilled help will not be obtainable; and under these and other circumstances an absolute cure of the suppuration may be desirable. This can only be secured by an external operation the aim of which is to completely obliterate the sinus by the formation and ultimate organisation of granulation tissue. Many operations have been advocated from time to time, but probably the best is that advanced by Killian (Berlin), in which the anterior wall and floor of the sinus are completely removed, as well as any neighbouring ethmoidal cells which are simultaneously diseased. By leaving a "bridge" of bone in the lower anterior wall of the sinus Killian's operation has done much to minimise the deformity which was the defect of many other operations formerly practised.

Slight deformity is nearly always present unless the sinus be small and shallow from before backwards, and, as I have said, the amount of probable depression can be fairly estimated by a skiagram of the sinus seen in profile.

Operations on the frontal sinus, especially for the cure of chronic suppuration, must be carried out with rigid regard for asepsis and the establishment of free drainage during the first ten days or fortnight following the operation. This warning is very necessary, because for reasons not altogether obvious the diploë of the frontal bone are peculiarly liable to septic infection, and once osteomyelitis has started only the most heroic and extensive removal of the frontal bone offers any chance of saving the patient's life.

Bacteriology of frontal sinus suppuration.—According to Lewis and Turner, "pus from the frontal sinus presents, as a rule, fewer varieties of bacteria than does pus from the antrum. It is more easy to assign predominance to one organism, and it appears that cocci of one kind or another are generally responsible."

INFLAMMATION OF THE SPHENOIDAL SINUS.

[The relations of this deep-seated sinus to the optic chiasma and nerves, to the sella turcica and frontal lobes of the brain, to the carotid artery and cavernous sinus, the third, fourth, and sixth cranial nerves, and its intimate connexion with the posterior ethmoidal cells were dwelt upon. (Fig. 7.) A graceful tribute was paid to Professor Onodi of Budapest, who had done so much in elucidating the anatomy of this sinus, and many of whose beautiful diagrams were shown during the course of the evening.]

Acute and chronic inflammatory conditions are caused by conditions almost identical with those already described in connexion with the other sinuses. We know little concerning acute primary inflammation of the sphenoidal sinuses. Chronic suppuration is nearly always associated with the same condition in the other sinuses, and more particularly with the ethmoidal cells.

Symptoms.—Subjective symptoms may be entirely absent, or the only complaint may be of "post-nasal catarrh." In other cases there may be some vertical or occipital headache. Still less frequently "earache" may be the chief complaint, as I pointed out some six years ago.

Inflammatory affections of the optic nerve, general or temporal contraction of the visual field, and other ocular disturbances have been recorded in many instances of chronic sphenoidal sinus suppuration, and this is only what

one might expect when the close relationship of the structures is borne in mind. Two observers have stated that half the cases of unilateral optic neuritis are of nasal origin, but this is probably an exaggeration.

Suppurative basal meningitis and cavernous sinus thrombosis are complications which are always possible when chronic suppuration exists in the sphenoidal sinus; and there can be no doubt that the source of many cases of unexplained and fatal meningitis has been within the sphenoidal sinus which has not been examined during life or thought of during the necropsy. StClair Thomson has collected 40 cases of intracranial complication following sphenoidal sinus suppuration, and has added two of his own.

Diagnosis.—This will involve a careful examination of the higher and posterior regions of the nasal cavity, to gain access to which it may be necessary to remove the middle turbinal bone. When suppuration is present a pulsating drop of pus may be frequently seen in the ostium of the sinus. Its presence within the cavity can be accurately determined by means of probe or cannula.

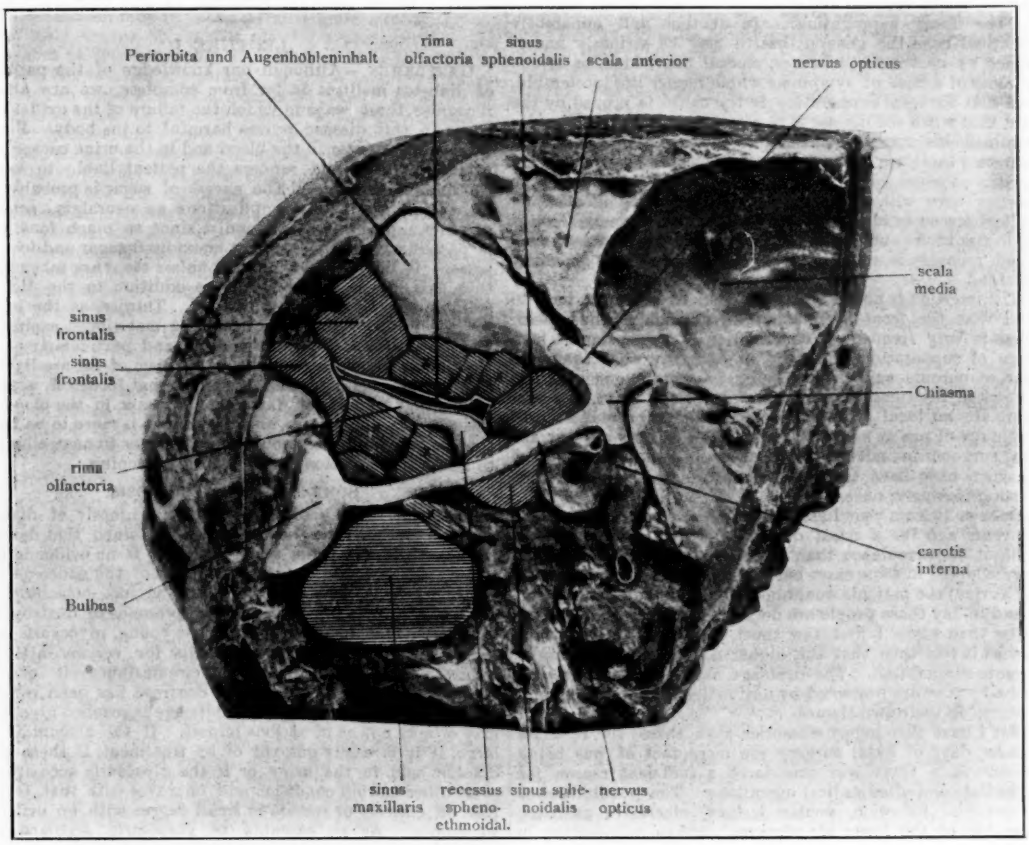
Prognosis.—This is usually very good if efficient drainage is provided by surgical intervention before dangerous symptoms have manifested themselves.

Treatment.—The operation usually involves removal of the middle turbinal and posterior ethmoidal cells in order to gain access to the anterior wall of the sinus. Hæmorrhage having been checked by the free use of gauze tampons moistened with adrenalin solution or peroxide of hydrogen, the anterior wall of the sinus can be removed by the use of suitable hooks or forceps. No curetting of the sinus walls is necessary nor is it advisable, for if free drainage be secured the inflamed mucous membrane will soon recover its normal condition.

I think my colleagues in this department of surgery will agree with me that chronic suppuration in the sphenoidal sinus is a favourable condition for surgical treatment, and a well-executed operation is usually fraught with the happiest results, for the symptoms are cured without any sign-manual of the surgeon's visit.

May I once more emphasise that the regions in the neighbourhood of the sphenoidal sinus demand the most careful manipulations. The reckless use of probes or curettes, blind or forceful probing, may have disastrous results; and hence the surgery of these regions must be entrusted to those who have devoted a large amount of time to the practical aspects of the subject.

FIG. 7.



To illustrate the intimate relations of the frontal ethmoid and sphenoid sinuses to the eyeballs, optic nerves, and chiasma, and carotid artery. Kindly presented to the lecturer by Professor Onodi (Budapest). The soft tissues of the sinuses and surrounding parts are hardened in formalin and the bony parts then carefully removed. The Latin descriptions explain themselves. "Augenhöhleninhalt" may be translated by "contents of orbit."

CONCLUSIONS.

Finally, what practical conclusions are we to draw from the facts which I have attempted to bring forward? Someone may ask, What is the frequency of suppuration in the nasal accessory sinuses? Very careful observations have been made in large clinics as well as in the post-mortem rooms of general hospitals, both at home and abroad, and they agree in showing that about 6·8 per cent. probably represents the average of sinus suppuration in the general mass of the population.[2]

Another and an important question is, To what degree does the presence of chronic suppuration in one or more sinuses (*a*) imperil the patient's health; (*b*) constitute a danger to life?

[2] Vide Comrie and Fraser, Edinburgh Medical Journal, November 1910.

For nearly 20 years I have been deeply interested in the matters under discussion, and am quite sure that no hard-and-fast or categorical answer can be given to these questions. In no department of surgery must a case be treated more upon its merits than in this. In the first place, much will depend on the sinus or sinuses involved. Compared with the other air cells, the antrum is far removed from vital or important structures, such as are in close relation with the sphenoidal, ethmoidal, and frontal sinuses.

Then, again, how frequent it is to be consulted by a patient who says that for years he has had "chronic nasal catarrh," which the history and examination clearly prove to be a foul empyema of the antrum, and yet the patient appears to be in robust health and possibly boasts that he has never had a day's illness in his life. A bacteriological examination of the pus from his antrum may show that it contains a variety of organisms possessed of great possibilities for evil, but in the laboratory of his body protective substances have been formed which seem to make him proof against the products of the local suppuration. In another and apparently identical case the general health may be seriously undermined by gastric disturbances, mental depression, or by one or more of a host of symptoms which render life intolerable, and that the local suppuration is the cause is proved by the fact that when the disease is removed the patient has rapidly regained his normal condition of health. Between such extremes there are many intermediate types and our line of treatment must be proportioned to meet the needs of the case. There will, of course, be less hesitancy in advising radical measures in the case of the antrum because there is little risk in the surgical measures which I have already outlined, recovery is rapid, and great relief or cure is generally attained.

The question is not so easily disposed of when we have to deal with the frontal, ethmoidal, or sphenoidal sinuses—or, what is very frequent, a combination of these sinuses in a state of suppuration. I would at once say that the mere fact of chronic suppuration being present in one of these sinuses in a patient whose general health is good, in whom there are no local symptoms of importance beyond a slight discharge of pus or muco-pus from the nose, does not warrant the surgeon in advising radical operations until simpler measures have been tried and there are cogent reasons for passing to severer ones.

Once or twice a year I see patients who consulted me 15 or 18 years ago for a nasal discharge which was more of a "slight inconvenience than a disease"—simple measures were adopted in some cases because (and possibly contrary to my advice) the patients would not submit to radical operation—and to-day these people are no worse and some of them are better than when I first saw them, although it is as obvious now as it was then that the higher sinuses are in a state of chronic suppuration. The drainage has been kept free, and probably they are protected by antibodies or opsonins manufactured in their own tissues.

But I have less happy memories than these, for in those pioneer days of nasal surgery the mere fact of pus being present in a sinus was considered a sufficient reason for immediate and often radical operations. The possibilities of intracranial infection, ocular lesions, ulcerative gastritis, infection of the lower air-passages perhaps culminating in septic pneumonia, appeared to many of us by no means impossible results of a neglected sinus suppuration. And in that faith, and acting in the light then vouchsafed to us, I fear that our surgical records were not free from disaster and that a life was sometimes lost in our endeavour to cure what might have proved merely an inconvenience. In yet other instances an unsightly depression over one or both eyebrows serves to remind us of what was possibly a misdirected enthusiasm.

To-day the pendulum has swung back somewhat and our first efforts are directed to the relief of symptoms by intranasal measures which in skilled hands involve little risk; and I think we are agreed that sometimes a cure, and certainly very often great improvement, may thus be gained—the latter to such a degree that both surgeon and patient are content to let matters rest awhile and see how far Nature will add still further to the good result. If, on the other hand, troublesome symptoms persist, or more serious ones threaten, then more radical measures must be undertaken. These will involve a knowledge of anatomy and technique which cannot be acquired from books, but only from patient investigation of the carefully prepared specimens to be found in our museums or post-mortem rooms, and by watching operations and after-treatment carried out by those whose disappointments and failures in earlier days have disclosed many of the little secrets which to-day enable them to intervene not only with courage but with a gratifying proportion of success.

Two Lectures
ON
THE TREATMENT OF DIABETES MELLITUS.

Delivered at St. George's Hospital

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LECTURE I.

GENTLEMEN,—Although our knowledge of the pathology of diabetes mellitus is far from complete, we are able to recognise three ways in which the failure of the oxidation of sugar in this disease proves harmful to the body. Firstly, the excess of sugar in the blood and in the urine causes polyuria and thirst, and renders the patient liable to various septic inflammations. The excess of sugar is probably also responsible for such complications as neuralgia, sciatica, cataract and retinitis. Secondly, since so much food value is passed out in the urine as unoxidised sugar and lost, the patient is liable to be underfed unless steps are taken to see that this loss is made up by the addition to the diet of a suitable amount of oxidisable food. Thirdly, as the energy for the needs of the body has to be met almost exclusively from the burning of protein and fat, and particularly of fat, the tissues responsible for the metabolism of fat are liable to fail in the complete combustion of that foodstuff, with the result that unoxidised fatty acid appears in the blood and tissues. In such cases, this fatty acid is more to be feared than sugar, for unless you are able either to neutralise it or to lessen its formation it may lead to poisoning.

SOME POINTS IN PROGNOSIS.

I am not dealing to-day with the diagnosis of diabetes mellitus, and assume that we have ascertained that dextrose is present in the urine and that there is no evidence of a removeable lesion in the neighbourhood of the pancreas. In passing I must, however, warn you against attaching too little or too much importance to the presence of dextrose and of diacetic acid in the urine. In the young, glycosuria, with or without diaceturia, always calls for serious attention unless perhaps—an uncommon circumstance—it can be shown that a large quantity of dextrose has been recently taken by the mouth. When middle age is reached glycosuria may or may not be of serious import. If the amount is not large, if it is easily got rid of by treatment, if there is no diacetic acid in the urine, or if the glycosuria accompanies some other morbid condition and improves with that, it may pass off entirely or remain in small degree with no evil consequences. As an example of glycosuria accompanying another morbid state and recovering with it, I may quote the case of a patient suffering from failure of compensation of the heart, with hydrothorax, ascites, and œdema; the urine contained albumin and sugar. I advised his doctor to take no notice whatever of the sugar. Under the influence of rest and large doses of digitalis the heart became compensated, and in six months the urine contained neither sugar nor albumin.

With larger amounts of sugar, especially when accompanied by diacetic acid, more active treatment is required. Even if diacetic acid is present, however, be very careful how you form a conclusion about the severity of the case. The fatty acids in the urine in diabetes have only been regularly observed by physicians for a few years yet, and although their constant presence in severe cases points out their great importance to the prognosis, yet I can think of patients in the fourth and fifth decades of life who, to my knowledge, had diaceturia several years ago, and are in good health now. Here, again, the possibility of the removal of any cause of strain, such as overwork, is of great importance. For example, a patient whose business involved

habitual overwork had glycosuria 15 years ago, and diaceturia as well when I saw him first six years ago. He was able to alter his manner of life and both are now absent, whilst his general health is good and he takes a mixed diet, though he is naturally careful to eat only a moderate amount of starchy foods.

Bearing in mind, then, the importance of not giving a prognosis graver than the event is likely to justify, you will, nevertheless, always pay close attention to the presence of the diacetic reaction in the urine, and I advise you to divide cases of diabetes mellitus for the purpose of treatment into two classes—namely, cases in which the reaction is absent and cases in which it is present.

ACIDOSIS.

You know that besides diacetic acid β oxybutyric acid and acetone occur in the urine. If these substances are present in quantity diacetic acid is also present, so that the ferric chloride reaction may be taken as a reliable clinical guide. But a mild degree of acidosis may be present without the occurrence of this reaction. If a drachm of bicarbonate of soda is given to a healthy person the urine becomes alkaline in a few hours and may remain so for 24 hours. If a certain degree of acidosis is present, however, either in diabetes or in other diseases, more soda is required to render the urine alkaline; indeed, in severe diabetes a very large quantity, ounces a day, may not have this effect for two or three weeks. Hence in all cases of diabetes give first of all a drachm of bicarbonate of soda three times a day, usually in milk, and have the urine tested with litmus to see when it becomes alkaline. If that happens soon the degree of acidosis is slight. If the urine does not become neutral or alkaline the soda is increased so far as practicable until it does. A measure is thus obtained of the degree of acidosis. I must warn you that the intensity of the diacetic reaction is increased by giving bicarbonate of soda, presumably owing to washing out of acid products or to the conversion of more of them to the stage of diacetic acid; you must not, therefore, look on the deepening of the reaction as meaning that the condition is worse when alkali has been given; it may mean just the reverse.

ESTIMATION OF SUGAR AND RESTRICTION OF DIET.

The next step is to find out how much sugar is passed out in the 24 hours on the ordinary diet of the patient. The total figure must be obtained, for the percentage only may be very misleading. As the quantity of sugar varies from day to day it is better to estimate it for three days running and take the average. Dr. Pavy's method is by far the most accurate of the quick methods of estimating sugar in the urine. Remember that if you are not doing estimations regularly you may obtain a figure lower than the real one without recognising the error on repeating the test. You must guard against this by not dropping in the diluted urine too quickly. Count the drops, and if you can decolourise the copper solution with a fewer number of drops the second time than were used the first, the estimation should be repeated until you obtain three concordant figures of which you take the mean. The tests in which you use the larger number of drops are usually wrong and lead to the amount of sugar in the urine being underestimated. The gravimetric method of estimating sugar is still more reliable, and my practice is to have this done by an analytical chemist whenever possible, using Dr. Pavy's method if an immediate estimation is required.

Having found out how much sugar is being passed out on the average from an estimation, if possible, on three separate days, you will proceed to restrict the carbohydrates in the food. The restriction of carbohydrate has two good effects. Firstly, it lessens the amount of sugar in the blood and abolishes, except in the most severe cases, the symptoms due to an excess of sugar in the blood and in the urine. Secondly, doubtless again through lessening the sugar in the body fluids, the power of the tissues to burn carbohydrate becomes restored. The second effect is of fundamental importance. You may easily relieve your patient's symptoms in most cases by restricting his diet somewhat, but you must go further than that and find out what his assimilative power for carbohydrate is, and how much it can be improved. This investigation involves a certain amount of arithmetic and requires the active coöperation of the patient. Your procedure will differ somewhat according as diaceturia is present or absent.

If the diacetic acid reaction is absent, and if the urine rapidly becomes alkaline under the influence of bicarbonate of soda, the restriction may be made without fear of causing acid poisoning. Even in such cases, however, I do not advise you to put the patient upon a strict diet at once. For by putting a patient upon a strict diet you can induce a diaceturia which has not previously been present, and this is undesirable, even if the sugar entirely disappears. The diabetic, to begin with, cannot oxidise sugar properly; the appearance of the diacetic reaction means that another foodstuff, fat, is also no longer freely oxidised. Whilst, therefore, acknowledging that a large number of glycosuric patients can be put on a strict diabetic diet with impunity, my advice to you is not to do it. You can produce the same good result by going a little more carefully without the same risk of disadvantage.

There is another reason why it is not advisable to order a strict diet at once, and that is that many patients will find the sudden change so irksome that they will not carry it out properly. Your instructions are far more likely to be obeyed throughout if they are reasonably lenient at first. Some patients are but little inconvenienced by the diet prescribed, others need great self-control to adhere to it; you must recognise this and show your sympathy by not asking too much. For the same reason, always allow as much bread as you can, for that is the food which is missed the most.

AMOUNT OF CARBOHYDRATE IN VARIOUS FOODS.

The following tables may help you in drawing up a diet. They are compiled from the modern analyses of Atwater and Bryant, and you will see that I have arranged the foods in three lists. The first list includes foods which are free from carbohydrate or contain less than 1 per cent. In the second list the foods contain a small proportion of carbohydrate, much of it in some of them being in the form of cellulose, which is not absorbed. The third list contains articles of diet which are richer in starch or sugar arranged according to the amount which they contain.

All patients are allowed to eat freely from the foods in List 1, most patients may also take the foods in List 2, whilst those in List 3 are only allowed when specially prescribed in measured quantities.

LIST 1.—*Foods Free from Carbohydrate or Containing Less than 1 per cent.*

Beef.	Turtle.	Gelatine.
Mutton.	Lobster.	Starch-free "breads."
Lamb.	Eggs.	,, biscuits and cakes.
Pork.	Butter.	,, "flour."
Poultry.	Cheshire cheese.	Sugar-free jellies.
Game.	American ,,	,, marmalade.
Sweetbread.	Dutch ,,	,, jams.
Tongue.	Gorgonzola ,,	
Fish.	Lard.	

LIST 2.—*Foods Containing a Low Proportion of Carbohydrate.*
The figures indicate the percentage of carbohydrate.

Liver	1	Lettuce	3	Mixed pickles	4
Sausage (pork)	1	Spinach	3	Cauliflower	5
Crabs	1	Oysters	4	Cabbage	6
Crayfish	1	Mussels	4	Leeks	6
Scallops	3	Stilton cheese	3	Radishes	6
Asparagus	3	Cheddar ,,	4	Mushrooms	7
Celery	3	Rhubarb	4	Water melons	7
Cucumbers	3	Tomatoes	4	Brazil nuts	

LIST 3.—*Foods Rich in Carbohydrate.*

Milk	5	Artichokes	17	Bread (toasted)	61
,, skimmed	5	Peas (green)	17	Peas (dried)	62
Whey	5	Cherries	17	Gingerbread	63
Oatmeal (thin gruel)	6	Almonds	17	Macaroons	65
Strawberries	7	Potatoes	18	Sponge cake	66
Turnips	8	,, with cream	18	Oatmeal	67
Carrots	9	Dried pears	18	Chestnuts (dried)	74
Beet (fresh)	10	Figs (fresh)	19	Sago	78
Onions (fresh)	10	Grapes	19	Tapioca	88
Cranberries	10	Plums	20	Arrowroot	97
Pineapple	10	Potatoes (boiled)	21	Dried fruits—	
Oatmeal (boiled)	11	Bananas	22	Apples, Apricots, Currants, Dates, Figs, Prunes, Raisins	62 to 78
Blackberries	11	Rice (boiled)	24		
Dried peaches	11	Tapioca pudding	28		
Oranges	12	Cocoanuts	28		
Parsnips	13	Chocolate	30		
Apricots	13	Mince pie	38		
Currants	13	Chestnuts (fresh)	42		
Walnuts	13	Apple pie	43	Meal, Flours, Rice, Macaroni, Vermicelli	70 to 80
Filberts	13	Bread (brown)	47		
Apples	14	Potatoes (fried chips)	47		
Pears	14	Bread (white)	53		
Macaroni (cooked)	16	,, (rolls)	56		
Calves-foot jelly	17	Lentils (dried)	60		

ARRANGEMENT OF DIET.

In the case we are considering—namely, that of the patient who is passing out sugar but no diacetic acid—you may begin by allowing about as much carbohydrate as he is passing out in the urine. If the urine contains, for instance, 150 grammes of sugar you can easily devise from the list a diet containing that amount of carbohydrate. In making such a calculation you will require but few figures, even if the lists are not at hand. It is useful to remember the following data, which are in round figures:—

Bread contains 60 per cent. of starch.
Potatoes contain 20 per cent. of starch.
Milk contains 5 per cent. of milk sugar.
Thin gruel contains 6 per cent. of starch.
One ounce is (roughly) 30 grammes.
One gramme is 15 grains.

A diet containing about 150 grammes of carbohydrate may be constructed as follows:—

	Grammes of carbohydrates.
5 ounces (150 grammes) of milk ... ... equal	8
5 ,, ,, ,, of gruel ... ... ,,	9
6 ,, (180 grammes) of bread ... ... ,,	108
2 ,, (60 grammes) of boiled potatoes ... ... ,,	12
Ordinary helpings of the foods in List 2 (estimate) ...	20
Total	157

The diet will then consist of the foods in Lists 1 and 2, with the quantities prescribed above of the foods in List 3. Sugar and jam and dishes or foods made with flour are, of course, not allowed. Saccharin may be used for sweetening tea or coffee, though it is better to form the habit of taking them unsweetened, as much saccharin may cause indigestion.

Such a diet may be arranged as follows:—

Breakfast.—A small basin of thin gruel with 5 ounces of milk; 3 ounces of bread; butter, bacon, eggs; a tomato; coffee with cream.
Lunch.—Meat or fish, pickles, 1 ounce of potatoes, butter, greens; green salad with salad oil; 1 ounce of bread with cheese and celery.
Tea.—2 ounces of bread with abundance of butter; a boiled egg; tea with cream.
Dinner.—Soup (containing no flour), fish, meats, 1 ounce of potatoes, spinach; custard made with cream and saccharin; cheese with some starchless bread, celery; a few Brazil nuts.

The diet will be varied from day to day, the quantity of carbohydrate being kept constant. After three days the urine will be analysed. If the quantity of sugar is much less, continue the diet for another week and make another analysis, and so on for as long as the sugar in the urine is falling.

If there is little or no reduction of the sugar, or if the quantity has ceased to fall or is rising again, the carbohydrate should be reduced by 50 grammes. This may be done by omitting the 2 ounces of potatoes and 2 ounces of bread, leaving the diet otherwise the same. The diet will then be:—

	Grammes of carbohydrate.
5 ounces of milk ... ... equal	8
5 ,, of gruel ... ... ,,	9
4 ,, of bread ... ... ,,	72
Ordinary helpings of foods in List 2 (estimate)	20
Total	109

With this diet the patient would take freely of the foods in List 1 and moderate helpings from those in List 2.

If after five days on the above diet sugar is still present in quantity, you will omit the potatoes and milk, reduce the bread to 3 ounces, and allow from List 2 only well-boiled greens and a tomato. The carbohydrate in the diet will then be:—

	Grammes of carbohydrate.
5 ounces of gruel ... ... equal	9
3 ,, of bread ... ... ,,	54
Estimate of foods from List 2	10
Total	73

The rest of the food will be made up from List 1.

With such a diet in many cases sugar will no longer appear in the urine. If, however, there is still a quantity of 20 grammes or more passed out, the carbohydrate will be still more reduced by allowing only 2 ounces of bread in the day with greens and one tomato from List 2. These will contain about 46 grammes of carbohydrate. With such a diet as this care should be taken to alkalise the urine by giving bicarbonate of soda while the restriction is in force.

Before this stage it will be necessary to provide some substitute for bread, such as the starchless breads made by Callard and the Protene Company and other manufacturers, of which the patient will be instructed to eat freely with abundance of butter. Puddings and other dishes may be made by the use of the starch-free flour.

In the milder cases we are considering the urine will now be free from sugar. The allowance of carbohydrate will then be increased, going back through the same stages. By this means it will be possible to ascertain easily how much carbohydrate the patient can take in the diet without any of it appearing in the urine. The chief aim is to keep this quantity—namely, the quantity of carbohydrate which can be assimilated—as high as possible.

FURTHER OBSERVATIONS.

Do not, however, form the idea that there is a fixed quantity of carbohydrate which the patient can assimilate. That is not the case. The quantity varies from time to time, and under proper treatment may become larger and larger. Some kinds of carbohydrate are also assimilated better than others. You will give in the course of treatment various kinds to your patient in order to find out whether he can, for instance, assimilate the starch of oatmeal better than that of bread, or whether levulose is better borne than dextrose. You will see that to obtain a correct picture of the patient whom you are treating it is necessary to take a good deal of trouble and to give the patient a good deal of trouble, for the collection of the 24 hours' total urine is, in ordinary life, an inconvenient business. It is sometimes impossible to have it collected on consecutive days. In that case samples are taken at the week-end, when the patient has leisure. The ideal plan would be for every patient to be carefully observed for at least a month with different diets and different kinds of carbohydrate. After such an investigation we should be in a much better position to advise than after one or two examinations of the urine. But this is seldom possible in mild cases, and you will often have to extend your observations over a longer period with considerable intervals between each. When you have found out how much carbohydrate can be assimilated you will order a diet containing rather less than this quantity.

The success of dietetic treatment depends very largely upon the skill in cooking which is at the disposal of the patient, and particularly upon the varieties of appetising dishes which can be made from the foods in List 1 with the help of the starchless flour and the various sugar-free jams and cakes which are provided by the manufacturers. If the patient is on a fixed allowance of carbohydrate it is a good plan to supply him with a list of the various ways with which he can supply that amount. With the aid of the analyses which I have given above this is quite easy to do.

In my next lecture I shall speak of the treatment of cases in which diacetic acid is present in the urine.

ON POST-NASAL CATARRH IN CHILDREN AND SOME OF ITS CONSEQUENCES.

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OF late years I have been in the habit of examining the fauces of all children who have been brought to me suffering from loss of appetite, gastric derangements, spasmodic conditions of the air-tubes, and obstinate coughs. In a very large number of these cases I have found the patient to be suffering from a more or less intense post-nasal catarrh. This catarrh is often confined strictly to the naso-pharynx, and does not pass into the nasal passages. While thus limited it may give rise to none of the usual signs of "a cold" in the nose, such as snuffling, sneezing, and external discharge, or even to a throaty quality in the voice. It may therefore remain latent and escape notice for weeks, or even months, together unless the throat be inspected in a good light. I have often been surprised at the intensity of the catarrh which an examination has shown can be fixed in the naso-pharynx without giving rise to a single local symptom to make its presence known. But whether or not it be associated with the ordinary symptoms of coryza, post-nasal

catarrh may be the source of widespread disturbances. These at first sight may not be of such a nature as to suggest a relationship with the state of the pharynx; but that the connexion, however obscure, is a very real one is seen in the successful results of treatment founded upon that assumption. When the catarrh goes on for months together it is, no doubt, being continually renewed; and the symptoms may be noticed to wax and wane according to the varying severity of the pharyngeal derangement. This rarely ceases completely, but if in a fairly long spell of genial dry weather the catarrh for a time comes to an end, it often returns at once when the weather again becomes changeable and damp. Some of these children suffer from a certain amount of adenoid overgrowth in the naso-pharynx, but in many the adenoids have been already removed. In the latter it is common for a return of the vegetations to be suspected on account of signs of obstruction to the posterior nasal openings arising from the thickened and swollen mucous membrane. But adenoids rarely return if their extirpation has been complete, and most of the cases of suspected renewal are of this kind.

The appearance of the fauces varies according to the intensity and duration of the catarrh. In cases of long standing the mucous membrane at the back of the pharynx is thickened and red like red velvet, and is bathed in secretion. In less severe cases the posterior wall is thickened and reddened and often uneven from shallow projections of the surface. These are redder than the mucous membrane around them. The surface is moist and is often covered with thick yellowish mucus, which may be seen flowing down from above. In bad cases enormous quantities of this mucus may be secreted, and as it is all swallowed and passed down into the stomach the gastric irritation set up by this continual inflow of acrid and often highly septic matter is not difficult to understand. A bacteriological examination of the mucous discharge taken from the pharynx was made for me in several cases by my house physician, Dr. G. Walker. The secretion contained, as might be expected, a great excess of the micrococcus catarrhalis, but mixed with these in the various specimens were Friedländer's bacillus, the bacillus septus, and more or less numerous staphylococci. In one case Dr. Walker found three Klebs-Loeffler bacilli of involution forms and a few pneumococci. Sometimes the uvula and soft palate are thick-looking and congested, but the tonsils are not necessarily enlarged. This state of derangement, I may again repeat, may remain unsuspected for months together if it be not associated with signs of coryza, for while it remains limited strictly to the fauces there is no pain in swallowing or other symptom pointing to the naso-pharynx. It is only by actual inspection of the throat that the existence of any morbid condition can be ascertained. Even after the inflammation proper is at an end its ill consequences remain as long as the free secretion of mucus persists. Therefore, if the posterior wall of the pharynx be found to look pale, thick, flabby, and moist, active treatment with astringent applications should be adopted without unnecessary delay.

One of the commonest consequences of this persistent post-nasal catarrh is complete loss of appetite. This is shown, not by a mere indifference to food, but by an active dislike to it, which is very striking and difficult to overcome. The children are generally pale, but show little sign of illness, and are cheerful and active in their games. As the mother remarks, "there does not seem to be much the matter with the child, but he will not eat." At every meal the same difficulty occurs, and much strategy may have to be employed to get him to swallow even a small quantity of food. It has often surprised me to notice that the subjects of so much perplexity and concern are not necessarily thin or obviously ill-nourished. This is probably owing to the fact that a child who will not eat can often be made to drink, and, indeed, may be ready enough to do so without any persuasion. He consequently takes large quantities of milk in the course of the day, and the deficiency in his regular meals may be thus more or less completely repaired. This absolute loss of appetite is a very common symptom in children between the ages of 4 or 5 and 9 or 10 years, although in other respects they may seem to be healthy enough. If the fauces of these children be examined there are very few in whom the pharynx will not be found to be in a state of active catarrh, or to have been left flabby, relaxed, and freely secreting after the acute stage has passed away, although no symptom pointing to the throat may have been noticed; and appropriate treatment of the derangement will rarely fail to restore the child's inclination for food and relieve the anxiety of his friends.

In some of these cases, in addition to the loss of appetite, which is a persistent fault, there may be signs from time to time of active disturbance of the stomach. Not a few examples of the so-called "cyclical vomiting" are of this nature. The child every month or six weeks is taken more or less suddenly with an attack of vomiting in which for 24 hours or more he returns at once everything, even water, which he takes into his stomach. His temperature is high, rising often to 104° or 105° F. at night. In the beginning the vomited matters are sour; later, when he is drinking nothing but water, the fluid is returned as it was taken; but, as a rule, vomiting quickly ceases when food is withheld. When these attacks are associated, as they so often are, with post-nasal catarrh I attribute them to an acute exacerbation of the catarrh in which a fresh secretion of peculiarly acrid mucus, teeming with more or less noxious organisms, is poured out and swallowed. This tainted secretion excites a septic fermentation in the alimentary canal, and the products are immediately absorbed into the circulation. It is possible that there may be a neurotic element in the illness, but that it is not a pure neurosis, as is usually assumed, is proved, I submit, by the fact that the temperature is excessively high, that the vomited matters are sour and offensive and show every sign of digestive derangement, and that the course of the complaint may be shortened, and a further recurrence prevented, by careful diet and early attention to the condition of the throat. At the same time it is, of course, advisable to take steps to put an end to periodical chills, so that the effect of the remedies may not be weakened or annulled by future repetitions of the original disturbance.

But these attacks of vomiting and general depression may not be the only evidence of intestinal intoxication. Such septic infections are capable of giving rise to local as well as general distress, and may be the cause of serious inflammatory mischief in distant tissues and organs. It is not now disputed that to toxæmic conditions many inflammatory diseases which arise without obvious cause may be directly attributed. Meningitis, appendicitis, otitis, iritis, and it has been lately suggested poliomyelitis, may all owe their origin to toxins generated in the bowel by such an incursion of virulent organisms; and cases have come under my own observation in which repeated attacks of retinitis and other obscure inflammatory or semi-inflammatory states of the eye, with threatened failure of sight, have been associated with, and I believe were the direct consequence of, persistent or very frequently recurring naso-pharyngeal catarrh.

To return to the everyday consequences of this functional disturbance of the naso-pharynx, it may be stated that loss of appetite and indigestion arising from this cause are not confined to children. In young adults of both sexes a peculiar susceptibility of the fauces may be left as a consequence of an attack of diphtheria or scarlet fever. These patients are liable to periods of indisposition in which they complain of a loaded tongue, unpleasant breath, and want of all relish for their food. There is seldom mention of sore-throat, but the voice has a nasal quality, and examination shows that there is much post-nasal catarrh with copious secretion, and that the tonsils, although not acutely enlarged, look red and may perhaps show retained yellowish matter in the follicular recesses.

Between post-nasal catarrh and spasm of the air-passages (stridulous laryngitis and laryngismus stridulus) in young children there is a close relationship to which I have drawn attention on many previous occasions. The more I see of these complaints the more convinced I become that post-nasal irritation is the common exciting cause of these attacks when the reflex spasm occurs in children whose glottis is of normal construction and development. But it is not only local spasm which may be excited by post-nasal irritation in early life; general convulsions may be induced by it. The apparently causeless convulsive attacks which sometimes occur in young children of rickety tendencies are often the consequence of this condition of the naso-pharynx—at least, a severe post-nasal catarrh may be the only deviation from a normal state of health which the closest examination can discover.

In young children up to the age of two years, and in children of neurotic tendencies who have passed that age,

the presence of acute and subacute post-nasal catarrh is often sufficient to induce a rise of temperature. This may be curiously erratic and unsettled. In a brief space of time the mercury may shoot up from the level of health to 102° or 103° F., and after an hour or two fall again to its normal point. This rise is especially likely to happen towards the end of digestion, or a couple of hours or so after food, and I am disposed to attribute it to the absorption from the stomach of mildly irritating products of decomposition. The pyrexia thus induced may be a cause of some perplexity for no symptoms may be present to point to the throat, and unless the fauces be examined the origin of the febrile movement must remain a mystery.

A very common consequence of post-nasal catarrh is acute enlargement of the cervical glands. The connexion between the state of the glands and the condition of the throat is, I find, often—indeed commonly—overlooked, although for successful treatment its recognition is a matter of the utmost importance. Whether there be symptoms suggestive of this condition or not, a glandular swelling at the border of the sterno-mastoid should suggest at once a careful inspection of the pharynx; and if the enlargement be recent, prompt treatment of the throat will in a short time cause the swelling to disappear. If the state of the fauces be overlooked or neglected, the enlargement of the glands may persist for months together, the swelling being more or less evident according to the degree of intensity of the pharyngeal disturbance. In such a state the glands have little power of resisting tuberculous infection; and as by their absorbent radicles they are in close connexion with the adenoid tissue in the naso-pharynx they are peculiarly open to invasion by the organism, and defend themselves feebly or not at all. Consequently if the state of the throat be disregarded, the glands may become the seat of tubercle, or possibly suppurate so that surgical measures may have to be resorted to; but the assistance of the surgeon is rarely required if the nature of the complaint be recognised in time. So long as the tumid glands retain their elasticity to the touch, and vary in size from day to day as the catarrh waxes and wanes, we may say positively that they are as yet unaffected by the tubercle organism and are still capable of returning to their original state. In such a case we may confidently expect that judicious treatment of the retro-pharyngeal catarrh will cause them to resume their natural size in the course of a few weeks.

The influence of post-nasal catarrh in promoting otitis by extension upwards of the derangement through the Eustachian tube into the middle ear is so much a matter of common knowledge and observation that this branch of the subject need not be referred to. I may, however, draw attention to the less recognised consequence of a downward spread of the catarrh and the irritation this further development is able to set up in the larynx and upper part of the trachea. The child becomes subject to attacks of violent cough which may come on at any time, but are especially liable to occur at night. He is not free from them during the day, but at night when he is put to bed and later while asleep he will often be roused by an attack of coughing which the domestic remedies employed have little power to restrain. The attack may last for 20 minutes or half an hour, and end in vomiting efforts in which a quantity of mucus is brought up. I have known such attacks to be mistaken for whooping-cough, especially as there may be some slight spasm of the larynx which produces an attempt at a crow, but the complaint is quite different in its symptoms from pertussis and may go on for months at a stretch in wintry weather unless the cause be recognised and appropriate treatment employed. Vomiting is only an occasional incident in the attack, but when it occurs the quantity of mucus which may be brought up by the retching efforts is sometimes surprisingly large. All this mucus has trickled down from the back of the nares and has been swallowed. When secretion is free the child may be noticed at intervals during the day to make swallowing efforts as the thick, tenacious mucus comes within reach of his muscles of deglutition. In most of these cases the patient's appetite is poor or almost completely lost, and this further symptom, itself a cause of disquietude, adds greatly to the concern of his friends. A further cause for alarm may sometimes be discovered in a staining of the mucus with blood or even a discharge of pure blood with or apart from the vomited matters. But there is no real cause for anxiety: the blood, like the mucus, comes from the back of the nose, and is no doubt a consequence of the increased strain upon the vessels set up by the retching efforts themselves. It is important to note that in spite of the urgency of the symptoms examination of the chest shows no sign of pulmonary catarrh or other indication of mischief in the lungs; and it was this absence of physical signs, conflicting as it does so curiously with the prominence of the cough, which first led me to look to the fauces for an explanation of the symptom. In cases where the cough is more than usually violent, especially if it be accompanied by any sign of spasm of the larynx, whooping-cough has to be excluded; but this is done by ascertaining the absence of an epidemic and noting the fact that other children of the family have remained unaffected although living all the time in intimate association with the sufferer.

In the treatment of these various disturbances the condition of the throat to which they all owe their origin must be remedied with as little delay as possible. In addition, the particular symptoms of each individual derangement must be the subject of special treatment.

For the throat affection local applications should be at once employed. These may take the form of drops instilled into the nostrils and allowed to trickle down into the naso-pharynx, or remedies applied directly to the fauces with a throat-brush. If the catarrh be very acute, with great irritability of the mucous membrane, we must be careful not to aggravate this condition by the use of too stimulating remedies. In such a case the throat should be painted several times a day with the glycerine of boric acid; or, if the child be old enough to follow directions, may be sprayed with a weak solution of tartrated antimony in water (gr. ¼ to the ounce) while the patient inspires deeply. By this means the first acuteness of the inflammation is quickly relieved, and the paint may then be made more astringent by combining the glycerine of boric acid with an equal proportion of glycerine of tannin. In cases where the painting cannot be carried out owing to the resistance of the patient and (especially) the want of determination on the part of the operator, some drops of a mild antiseptic solution may be instilled into the nostrils several times a day as the child lies on his back with his head supported by a pillow. Any weak antiseptic drug will do for this purpose, such as a solution of resorcin in normal saline (gr. v.–x. to the ounce) or of boric acid (gr. x. to the ounce of water), or of sodium bicarbonate (gr. xv. to the ounce). But any other remedy of this class may be used so long as it is not injurious to the stomach, for it is impossible to prevent a young child from swallowing the fluid when it reaches the fauces. In every case, however, where it can be done the throat-brush should be used, for the instillation of antiseptic drops is a far less efficient remedy than the other. As the redness of the pharynx fades stronger and stronger applications may be employed, for if the case be of long standing the mucous membrane is left flabby and relaxed and freely secreting. For such a condition pure glycerine of tannin may be used, or a paint made of gr. xii. of iodine and gr. xv. of iodide of potassium to the ounce of glycerine. This application may be flavoured by five drops of the oil of cinnamon or peppermint. A good astringent iron paint is made by adding one drachm of the stronger perchloride of iron solution to the ounce of glycerine, but this application should only be used after all trace of redness has disappeared; it is then a very efficient remedy. In cases where the anorexia has been complete the appetite usually returns when the flow of mucus into the stomach has been brought to an end. If, however, this result do not follow the symptoms rarely resists a good iron tonic, especially if this treatment be combined with bracing country air or a stay at the seaside, but change of air alone without special treatment of the throat is powerless to effect an improvement.

When there is active disturbance of the stomach with incessant vomiting no attempt should be made to administer food. All efforts to do so only aggravate the vomiting, however simple the food may be; milk especially in such a condition is an irritant poison whose use, by supplying more material for fermentation, can only prevent the disturbance from subsiding. The patient should be allowed nothing but water swallowed as hot as he can be induced to take it. Even this, however, will probably be returned immediately, especially at first; but this result is to be welcomed as it helps to clear the stomach of objectionable matters and may obviate the necessity of using the stomach tube. If, as may happen,

an odour of acetone can be detected in the breath, a hot solution of sodium bicarbonate may be used instead of the plain water, and six or eight ounces of the same solution may be injected under the loose skin of the back. This is the orthodox treatment and has the advantage, especially the hypodermic injection, of appearing to be an energetic proceeding, but I cannot say that it has seemed to me to be of much practical value. The severe forms of acetonæmia generally end badly and the milder cases usually recover whatever be the treatment adopted.

Other consequences of the catarrh quickly disappear when treatment of the throat is taken briskly in hand. Cough, however violent, soon subsides; spasm of the larynx rarely persists after the acuteness of the pharyngeal catarrh has been reduced; and subacute glandular enlargements in the neck are not slow to decline when the naso-pharyngeal irritation has been detected and subdued.

It is important to remember in the treatment of these complaints that we must not be satisfied by a mere temporary improvement, even if the symptoms completely disappear for the time, for in no case can this be accepted as a sign that the patient is definitely free from his troubles. In the treatment of catarrh affecting any tract of mucous membrane, in order to arrive at a permanent cure it is necessary for the medical attendant to bear in mind during convalescence the special sensitiveness to chills which still remains in the part lately affected. Catarrhs invariably tend to repeat themselves, and therefore relapses may be confidently expected unless special measures are taken to put a stop to this tendency to return. This can only be done by recognising the patient's susceptibility and taking steps to increase his resisting power and provide him with sufficient protection against sudden changes of temperature.

There is a tendency in the present day to make light of chills as a cause of disease, and to attribute all the disturbances which were formerly ascribed to this source not to the exposure but purely and simply to microbic agency. That noxious organisms may take a part in the process I am not prepared to deny, but at the same time I must protest against the doctrine that the influence of damp and cold and abrupt changes of temperature can altogether be left out of account. I have learned as a matter of clinical experience that relapses in these cases will continue to recur as long as a patient is neglected and exposed. If we allow such a child to go about with bare legs and cold feet, as is done so often, he remains weakly and suffers continually from catarrhal disturbances. If his legs are covered up with woollen stockings, if his feet are kept warm and such other precautions are taken as his known susceptibility may suggest, he will cease to suffer from these ailments and get well and strong. It is possible that exposure to cold may be hurtful by rendering the mucous surface a congenial soil for the action of organisms which, without this necessary preparation, would be incapable of harm; but whatever the explanation may be, of the fact I am convinced—viz., that to get and keep such children well we must keep them warm. The necessity of recognising this susceptibility in order to effect a permanent cure is a point upon which I have often insisted, but it is one which is too often overlooked even by the medical attendant. By the public it is invariably ignored; and in consequence when relapse follows relapse in any case of catarrhal derangement the relatives rarely fail to attribute the repeated and disappointing recurrence, not to their own ignorance or neglect, but to an assumed failure of their family adviser to supply a satisfactory remedy. But it is not the treatment which is usually at fault. This may have been judicious enough and successful again and again. The failure lies in the medical attendant's omission to insist upon proper precautions being taken in the matter of dress and general management to protect the patient against unnecessary exposure and the risk of further chills. Until this has been done the cure cannot be regarded as complete.

Queen Anne-street, W.

WINSLEY SANATORIUM FOR CONSUMPTION.—The proposed extensions at the Winsley Sanatorium will, if carried out, greatly improve the administrative block of buildings and provide better accommodation for the staff. It will also increase the beds for the accommodation of patients from 68 to 100.

A FURTHER CONTRIBUTION TO THE STUDY OF RHEUMATISM:

THE EXPERIMENTAL PRODUCTION OF APPENDICITIS BY THE INTRAVENOUS INOCULATION OF THE DIPLOCOCCUS.[1]

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The Source of the Infection.

THE first step in this communication is to indicate accurately the source of the infective agent with which our results were obtained.

A boy, aged 14 years, previously healthy and with a good family history, came to University College Hospital in August, 1911, suffering from a first attack of acute rheumatism of five days' duration. It commenced with pain in both knees and ankles and later in the left shoulder. The temperature was 100·5° F. and the pulse-rate 100 to the minute. Both knee-joints were tender and full of fluid, and the other joints named above were painful. For 24 hours an apical systolic murmur was faintly audible, but this disappeared and the boy made a rapid and complete recovery. He was treated with salicylate of soda. The only point at all unusual in this case was the excess of fluid in both knee-joints, the right one being distended. Mr. C. E. Shattock, acting house physician, tapped the joint for us, and a greenish fluid, which coagulated and contained some fibrinous shreds, was obtained. From this a diplococcus was isolated and grown in pure culture and is the infective agent which we have used for the following experiments.

The Investigation.

The animals used for experimentation were rabbits, and we would lay special stress upon the point that we used consistently for the first time young ones of some six to seven weeks of age. All the injections were made from bouillon cultures into the auricular veins. The first animal injected with a large dose died from general pericarditis. The second was six weeks old and received ½ c.c. of a bouillon culture. Multiple arthritis followed and mucous diarrhœa, the animal dying from an intussusception of some days' duration. In passing, we would comment upon this occurrence of acute intussusception in two animals as a sequel and possibly a result of the infection. A pure culture of the diplococcus taken from the joint of this animal was used for the third rabbit. This was seven weeks old and was inoculated on Sept. 2nd with 1 c.c. of a bouillon culture. Monarthritis of the left knee-joint developed with general illness and diarrhœa, and death occurred on the third day. The post-mortem examination showed that *for 1½ inches in the middle two-fourths of the appendix* there was acute inflammation. The left knee-joint showed the usual early synovitis. The liver showed fatty areas. The spleen was slightly enlarged and firm. The kidneys were not remarkable. There were no petechiæ and no post-mortem staining; the heart was not opened, but there was excess of fluid in the pericardial cavity. The diplococcus was recovered in pure culture from the left knee-joint and the heart's blood. The appendix was clearly inflamed and the mucous membrane was swollen and red. A small piece was excised for histological investigations.

[The rabbit was shown, with histological sections illustrating the diseased condition of the appendix and the presence of the infective agent in the blood-vessels in the submucosa and in the mucosa.]

The details of the histological examination were as follows. The muscular and serous coats of the bowel were healthy, but the mucous and submucous layers showed extensive necrosis. There was destruction of Lieberkühn's follicles and of the lymphoid tissue. The basal vessels of the submucosa were engorged with blood and numerous diplococci could be seen

[1] A communication read before the Pathological Section of the Royal Society of Medicine on Oct. 17th, 1911.

both in the vessels and in the tissues of the mucous and submucous coats. The bacillus coli had also invaded the necrotic area. Lastly, there was a slight fibrino-cellular exudation into the lumen of the gut.

Although this was the third rabbit alluded to in this paper, four others had been inoculated and had developed multiple arthritis but no appendicitis; but one more in this series—that is, the fourth mentioned here—developed in addition to multiple arthritis in both elbow-, knee-, and carpal joints some diarrhœa, and was killed when *in extremis* on the fifth day.

The *middle two-fourths of the appendix* showed small opaque areas, deep-seated in the substance of the wall, and this part was swollen and firm to the touch. The blood-vessels in this situation were engorged. On opening the appendix a mucoid fæcal-stained fluid escaped, and at one spot on the inner surface a reddened depressed area of the size of a hempseed was visible. The opaque areas seen from the external aspect were still more obvious from within. At the junction of the appendix with the cæcum there was an enlarged lymphatic gland, and there was excess of fluid in the peritoneal cavity. The spleen was slightly enlarged but not soft, the liver was dark and firm, and the kidneys were pale. The heart was dilated and full of blood; there was no pericarditis or endocarditis. The lungs were congested, and there was excess of fluid in the pericardial cavity. A pure culture of the diplococcus was recovered from a knee-joint. The depressed area in the appendix proved to be an acute ulcer, a section of which is under the microscope and the histology of which was as follows:—

The chief changes are visible in the mucous and submucous coats. These are of two kinds; in some places there is disappearance of the lymphoid tissue with a tendency to necrosis, in others a proliferation of the connective tissue elements pointing to the first stage towards a fibrosis. Diplococci were not demonstrated in the portion of the tissue examined, in which reparative processes were just commencing. In the area of ulceration there is local necrosis of the mucosa and submucosa with destruction of the epithelium of Lieberkühn's follicles and the lymphoid tissue. The muscular and serous coats are not involved and form the base of the ulcer. The connective tissues bounding the necrotic area show commencing proliferation.

Another series of inoculations was made from the culture taken from the first rabbit that had suffered from acute appendicitis, and one of this series was killed when *in extremis* on the third day. During life arthritis of both knee-joints had shown itself and there was some diarrhœa with general illness, the result of the inoculation. On opening the abdomen a condition was observed the nature of which we must ask to be accepted from our description because in the process of preservation it could not be produced. The *middle two-fourths of the appendix was ballooned* and in the walls were small opaque areas not so extensive as in the preceding case, and situated chiefly along the mesenteric attachment. The viscera showed no noteworthy features and both knee-joints were in a condition of early arthritis. The diplococcus was recovered from one of these in pure culture.

The histology of this condition shows the earliest stage of an infection by the blood-stream. The first changes appear in the mucous and submucous layers, but chiefly in the lymphoid follicles of the latter. Small foci of polynuclear cells can be seen here and there surrounding the minute blood capillaries, and every stage of inflammatory change can be traced up to complete destruction of the normal tissue, ending either as necrosis or connective-tissue proliferation. Diplococci are visible in various stages of destruction within the phagocytic cells, according to the stage of inflammatory reaction.

The last series that has been inoculated consisted of three young rabbits, seven weeks old, which were injected intravenously on Oct. 6th with very small doses (0·25 and 0·1 c.c.) of a bouillon culture from the knee-joint of the preceding rabbit with appendicitis. All developed arthritis and one diarrhœa; this one died on the ninth day. There was marked arthritis of the left carpal joint and slight arthritis of both knee-joints, the synovial membranes of which were red and congested. About half an ounce of turbid fluid was removed from the peritoneal cavity, and the serous membrane showed early inflammatory changes. *The appendix at the junction of the last one-fourth with the first three-fourths* showed an opaque area deeply seated in its wall. The blood-vessels were congested. As regards the other viscera, there was no noticeable feature, except that the spleen appeared to be unusually small. Cultures from the left carpal joint and peritoneal fluid gave a pure growth and films also showed that the diplococcus cultures from the blood were negative. We would emphasise the absence of the bacillus coli in the films and cultures of the peritoneal fluid. Thus it will be recognised that in this case, which had lasted nine days, some peritonitis occurred and living diplococci were present in the peritoneal fluid.

Summary of Histological Details.

To summarise our histological results we would point out the occurrence, first, of a very early appendicitis; secondly, of a severe appendicitis; thirdly, the formation of an ulcer; and fourthly, the occurrence of peritonitis as the result of local deposits of the diplococcus intravenously injected. We would also express our belief that in human appendicitis, apart from the complicating event of a concretion which we know is not a constant occurrence, the histological changes might be well explained by our results. The early cases with their focal deposits in the submucosa and mucosa, showing cell proliferation and little necrosis, might well if they had been more prolonged in duration have produced sclerosis of the wall such as occurs in chronic human appendicitis. The acute case with much necrosis would represent the virulent human condition. Lastly, the ulcer, had it healed and been rather more extensive, would have produced the stricture so often seen in man.

The occurrence of an early peritonitis without perforation throws light upon malignant human appendicitis.

The rapid destruction of the diplococci by the tissues is a most interesting event, fully bearing out our previous experiences as to this micrococcus, which have led us so repeatedly to explain the difficulty of its isolation during life.

The enlargement of the lymphatic gland at the base of the appendix is paralleled in human appendicitis.

In none of these cases nor in the 24 rabbits inoculated in this research was there a single abscess on the viscera.

Adrian's Researches.

In so far as these results are the outcome of infection with a micro-organism obtained during life from rheumatic arthritis, and a micro-organism, too, capable of reproducing a similar arthritis, they are, we believe, a new contribution to the subject of experimental medicine, and a new fact in the pathology of the important condition of appendicitis. If, however, we were to claim that the wider question of the possibility of appendicitis arising as a local result of a general blood infection had not been realised and experimentally investigated before, then we should do a gross injustice to others. Absolutely independent as these investigations of ours have been, we must refer to Adrian's paper published ten years ago[2] upon the occurrence of appendicitis, both clinical and experimental, as a result of general infection. This author in a masterly investigation refers to this production of appendicitis in rabbits by the intravenous injection, not only of streptococci, but also staphylococci, typhoid bacilli, pneumococci, and the bacillus coli. In the pneumococcal investigation he demonstrated the micrococcus in the wall of the appendix, and his microscopic section of the inflamed appendix resulting from a streptococcus infection is in accord with the histological results that we have shown. He gave no details of an ulcer formation or of another lesion such as arthritis, or of the condition of the peritoneal fluid, nor does he mention the source of the streptococcus, but these points are of secondary importance compared to the general question with which his contribution was concerned.

In his paper Adrian gives many references to the work of others upon the general question of the origin of appendicitis from a general blood infection or local injury. Roux and Josué Roger, Beauserrat de Rouville, Gouget, and others have investigated in various ways upon this question, and Adrian's paper reviews this work.

Concluding Observations.

We would make the following concluding observations:—

1. There seems to us no doubt that in these cases acute appendicitis resulted directly from an intravenous inoculation of a diplococcus obtained during life from an acute rheumatic arthritis, and it appeals to us as interesting that it was the only obvious alimentary lesion, a point which Adrian noted in his cases.

[2] Mittellungen aus den Grenzgebieten der Medizin und Chirurgie, 1901, p. 407.

2. The conditions that were produced were of varying severity.

3. In each case the animal was young; heretofore we have not observed such a condition in the older animals. This may or may not prove to be an accurate observation.

4. The condition arises without the presence of any concretion or foreign body in the appendix, and commences deep in the wall of the appendix. This later point militates, in our opinion, against the view held by Aschoff that in human appendicitis the disease starts from within the lumen of the appendix.

5. It is interesting that the middle part of the length of the appendix is affected, a position in which a stricture is so often found in man.

6. In one case early peritonitis with living diplococci in the peritoneal fluid occurred, although there was no perforation—a point of much importance in its bearing upon the pathology of human appendicitis.

7. The ballooning of the affected area of the appendix in one case suggests the probability that in man some such loss of tone favours stagnation of secretions and contents and the formation of a concretion.

8. The association of arthritis, mucous diarrhœa, and appendicitis is of interest in its bearing upon the difficult question of auto-intoxication from the bowel in the human subject as a cause of arthritis. It suggests that rather than this being the primary factor, the probability is that all the lesions may be the result of some primary cause circulating in the blood stream and determining to these various positions.

9. We do not assert for one moment that the only cause of appendicitis is this diplococcus. Adrian's investigations and those of others are sufficient evidence, quite apart from clinical experience, to prevent us falling into this error.

10. Whether or not these results favour the widely held view of a relationship between acute rheumatism and appendicitis must depend upon the significance that is attached to this diplococcus and the degree of parallelism that exists between human disease and experimental infection.

NOTES ON THE ETIOLOGY OF SCARLET FEVER.

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IN these notes no attempt will be made to deal exhaustively with the etiology of scarlet fever, but a short description will be given of a series of cases admitted to the Guildford Joint Isolation Hospital, which tend to confirm the opinion I have long held, that a fair proportion of the patients admitted into our fever hospitals as suffering from scarlet fever, although presenting signs which are indistinguisable from those of true scarlet fever, have not in fact necessarily contracted the infection from a previous case of the disease.

It has been asserted by medical officers of health for urban districts that as, perhaps, 70 per cent. of cases of scarlet fever reported were traceable to previous cases, it followed that the remaining 30 per cent. originated in a similar manner. This reasoning may be more or less justifiable in a congested area where the possibility of infection by direct or indirect contact is difficult to exclude, but it cannot logically be applied to sparsely populated districts, where such contact can often be excluded with every degree of probability. Moreover, in such districts the accumulated evidence of the remaining 30 per cent. is so strong as to force the conclusion that sporadic cases of scarlet fever arise without reference to a previous case. It is obviously only in thinly populated districts, if at all, that this possible mode of origin of scarlet fever can be proved. If a single origin for scarlet fever is insisted upon it would be illogical to deny to such infectious diseases as erysipelas, pneumonia, and cerebro-spinal fever an origin apart from previous cases.

It may, of course, be objected that cases notified as scarlet fever, in which there has presumably been no direct or indirect contact with a previous case, are either not cases of scarlet fever at all, or that the previous case did exist but was not traced. The first objection carries with it the responsibility of laying down the pathognomonic signs of scarlet fever. My contention is that sporadic cases of an exanthematous disease arise in which an origin from previous cases may resonably be excluded, but which present signs which are indistinguishable from those of true scarlet fever. In view of the well-known ambiguous character of many attacks of this disease, it would probably be a relief to most medical officers of isolation hospitals to have cases sent in which showed a puncto-erythematous rash, a congested throat, and elevation of temperature, followed by a distinct peeling of the tongue, and subsequently of the hands and feet. The following two cases exhibited these signs, and yet contracted second attacks after admission to hospital.

CASES 1 AND 2.—The patient in Case 1, a boy, aged 5 years, was admitted into hospital on April 17th, 1911, with a temperature of 100·4° F. and a pulse of 104, a peeled tongue, congested throat, and what seemed to be the remains of a puncto-erythematous rash on the trunk, and especially in the groins and upper part of the thighs, but which was scanty on the limbs. He had impetiginous sores on the cheek and left ear. The onset was stated to have occurred with malaise on the 14th, sore throat on the 15th, and rash on the 16th. He was said to have had the sores on the face for two months, and a baby brother had had impetigo of the scalp for about the same time. No previous cases had been reported in the locality for eight months, and then only one isolated case. On April 19th a note was made that the tongue had a distinctly peeled appearance, and that the rash was still present in the groins. On May 3rd—i.e., in the third week—there was definite peeling on the hands. The soles of the feet showed dry powdering only.

On the same date (April 17th) was admitted his brother, aged 13 years (Case 2), who showed on admission a flushed face and a puncto-erythematous rash on the trunk, a very congested throat with punctation of the soft palate, temperature 101° F., and pulse 104. The date of onset was given as the 15th (one day after his brother); there were sore throat and headache on the 16th, and a rash on the 17th. On the 19th the throat was very congested and swollen, the rash was well out, chiefly on the trunk, but extending to a slight extent on to the backs of the hands and feet. The tongue was peeling distinctly. On the 20th the rash, which was now mostly punctate, was still well out on the trunk, and especially in the groins. There was pinhole peeling on the trunk, and at the end of the second week marked peeling of the palms.

The boys had been placed in the scarlet fever ward with only one other patient. Up to this time no doubt had been entertained but that both were suffering from mild attacks of scarlet fever. On May 1st, however, the elder boy, after an onset with sickness, headache, and sore throat, developed a still more general and typical rash, the hands distinctly peeling at the same time from the first attack. His temperature rose to 101·8° on May 2nd, and did not become normal until the 11th. On May 4th the tongue had peeled and was raw-looking, and it subsequently became ulcerated. On the 8th there were rheumatic pains in the wrists, which extended to the elbows. The second attack was altogether more severe and typical than the first, but in spite of this it was considered to be one of the relapses which occasionally occur. On this account, and the ward being practically empty, the younger brother was not removed.

The next thing that happened was that the latter on May 23rd developed a very typical attack of scarlet fever, with a temperature of 103·8°, followed by general peeling, double otorrhœa, and some albuminuria. On June 12th the hands had finished peeling, and the feet about half-finished, for the second time, both being more copious than on the first occasion. The ward had been empty of other patients since May 13th, so that it is highly probable that his secondary infection was contracted from the elder brother.

There is no doubt that the second attack in both cases was true scarlet fever, and as it would have been an extraordinary coincidence that both were relapses, it is probable that the first attacks were due to a systemic infection, possibly by streptococci from the impetiginous sores.

The following series of cases point to the same conclusion. The notes taken were not very complete, as there was no intention at the time of publishing them. All were sporadic cases without known antecedent or subsequent cases in the several localities:—

CASES 3–6.—The patient in Case 3, a girl, aged 12 years, was admitted from an isolated cottage on Jan. 9th, 1911, with a temperature of 103·4° F., which fell gradually to normal by the 16th. There was a history of an onset on the 7th with sore-throat; sickness all day on the 8th and rash on the morning of the 9th. The case was typically scarlet fever in respect of the rash and the red and swollen throat. On the 13th the rash was fading from the trunk, but was still very visible on the hands and feet. The tongue had peeled. On the 19th there was pinhole peeling above the pubes. On Feb. 14th the hands had not finished peeling, the toes had commenced to peel, and the soles had not completed peeling on Feb. 29th. This child had not been out of the house since Jan. 1st. On inquiry at the home two other children were found to be affected with impetigo of the face.

On Jan. 25th the mother and two children were admitted to hospital. The mother on admission had no temperature and no rash. There was history of an onset with malaise on the 17th and a scarlatiniform rash, mainly confined to the trunk, on the 18th.

One of the children, aged 2 years, had impetigo and a discharging ear, and the second child, aged 12 months, had on admission swollen submaxillary glands, a temperature of 103·4°, which gradually declined to 99° on the 30th and then rose, with morning remissions, to 102·4° by the evening of Feb. 4th.

Neither the mother nor the two young children showed more than powdery peeling. It appeared that these two children had a slight rash within two or three days of each other during the last week of the year, and that another child was sent home from school with impetigo before Christmas and also had a general rash.

In this series of cases, again, there is a strong presumption that they were all associated with the impetigo, as no previous cases had occurred in the school or locality. All the four cases notified were probably of the same nature, as they were together during the six weeks' detention, and the first case at any rate was indistinguishable from a typical attack of scarlet fever.

Another similar case follows:—

CASE 7.—The patient, aged 9 years, was admitted on April 3rd, 1911, with a temperature of 102·2° F., which gradually fell to normal on the 6th. There was a history of onset on the 1st, and a rash next morning. On admission there was a good puncto-erythematous rash, a red and swollen throat, and a whitish furred tongue. On April 4th there was a deposit of albumin in the urine, and on the 5th the tongue had peeled, and there was glandular swelling on one side of the neck. On the 19th he was powdering freely on the trunk, and the palms and soles had finished peeling by May 9th. It was found that a child at home had at the time of admission impetigo of the scalp and that the mother had whitlows on both hands.

Another isolated and similar case is next given:—

CASE 8.—The patient, aged three years, admitted on Dec. 6th, 1907, with a history of onset on the 3rd, sickness and sore throat on the 4th, and a rash on the 5th on the chest extending to the legs and arms. On Dec. 28th his hands were peeling distinctly. This child had not recently been outside the premises, and there were no other children in the home. He had, however, communicated through the palings at the back with the next door children, who were at the time affected with impetigo.

One more similar example may be cited:—

CASES 9 AND 10.—A patient, aged 3 years, was admitted on Sept. 3rd, 1908, with a temperature of 99·5° F., which became normal next day. There had been sickness on August 30th, and a rash and sore throat on Sept. 1st. A sister, aged 7 years, was admitted at the same time with an identical history. On admission there was a fading punctate rash on the body and limbs, but none on the hands and feet. The tongue had a peeled appearance. The throat was a little congested and there was some exudation on the tonsils. On Sept. 12th there was peeling on the trunk and early peeling on the hands.

The patients' home was an isolated keeper's cottage. There were four other children, and three if not all four of these were at the time suffering from impetigo contagiosa. The children were detained in hospital for eight and 11 weeks respectively, the latter on account of rhinorrhœa.

Some cases found associated with purulent conditions other than impetigo contagiosa may now be mentioned.

CASE 11.—The patient, aged 21 years, who stated she had had scarlet fever when five years of age, was admitted to the isolation hospital on Feb. 16th, 1910. The onset was on the 14th with nausea; a rash appeared on the 16th. She was suckling a four months old child. On admission the rash was scarlatiniform and was general, including the backs of the hands and feet. The throat was very red, the tongue furred but cleaning at the edges. One breast was very tender and swollen. On the 18th the rash was more out on the thighs and fading from the trunk. The breast was incised on the 23rd and a quantity of pus found. On March 22nd the palms were noted to have peeled over half their extent, and there was peeling on the toes.

CASES 12 AND 13.—A patient, aged 11 years, was admitted on May 27th, 1911, with a copious scarlatiniform rash, slight throat symptoms and temperature, and with an abrasion on the arm from a fall, which was suppurating and had been poulticed by the mother. She subsequently developed superficial abscesses in the armpits.

The girl's twin sister was taken ill four days after the other, and was admitted with similar signs on May 28th, and a temperature of 103° F., which did not become normal until June 5th.

On both these children the peeling was exceptionally marked and early, as there was pinhole peeling over the pubes on May 27th and June 2nd respectively; free peeling on the hands on June 2nd and 3rd, and by June 8th and 9th the hands had finished peeling in large thick sheets; and by June 10th and 11th the feet had finished in a similar manner. In these two cases the amount of rash and peeling was out of proportion to the throat condition and the constitutional disturbance.

CASE 14.—The patient, aged 3 years, was notified on April 23rd, 1909, and nursed at home. The child had a good scarlatiniform rash, but did not complain of sore throat, which only showed slight congestion. She had a suppurating sore on the heel. She was feverish and drowsy on the 22nd, and a very irritable rash appeared on the trunk the same day, and on the legs and arms on the 23rd. The subsequent peeling was definite on the hands, and there was suppuration in both ears.

CASE 15.—The patient, aged 3 years, living in a large house, had an onset on June 13th, 1910, with sickness. There was a dirty congested throat, and a scarlatiniform rash appeared on the 14th. The child had an abrasion of the chin on the 11th, which suppurated. There was subsequently a troublesome purulent vaginitis. There was extensive peeling. She had not been out except with the nurse. The mother looked after the patient at home and herself fell with similar symptoms on June 25th, which ran the usual course.

CASE 16.—The patient, aged 12 years, was admitted on August 27th, 1909, with a temperature of 101° F. which became normal on Sept. 1st. There was a history of having been confined to bed for three days with a painful stump of leg which was suppurating. There had been malaise and sore-throat on the 26th and rash on the 27th. On admission the tongue was furred, the throat a little red, the rash general except on the hands and arms, fairly profuse on the trunk and thighs, none on the face. On the 29th there was still rash on the trunk, which was now punctate, very little on the arms and legs, and a few specks only on the backs of the hands and feet. The boy, who had been admitted into the scarlet fever ward, developed a typical attack of that disease on Sept. 5th, the rash and the throat symptoms being more marked than on the first occasion.

Dr. J. C. Thresh, in his annual report for the Chelmsford rural district for 1910, refers, in connexion with some cases of scarlet fever, to an interesting observation by Mr. H. Cardin of Stock, which tended to throw light upon the origin of sporadic cases. One of his cases was associated with a suppurating gland and another with a suppurating scald, and Dr. Thresh states that he himself has also noted some sporadic cases in which an examination revealed some purulent condition.

In view of the fact that the streptococcus of Fehleisen has been isolated from the sores of impetigo, it is not improbable that if some of the exudation finds access to the tonsil it should set up there an inflammation with systemic absorption corresponding to that which occurs in epidemic scarlet fever. Conversely, we may argue that if streptococcal organisms are capable, when introduced into the throat, of giving rise to an illness indistinguishable from the true or common scarlet fever, the latter disease is probably due to a streptococcus. Judging from the first two cases mentioned and Case 16, the one variety does not confer immunity against the other. Cases, however, of a simulating disease may often survive the usual detention in a well ventilated and managed scarlet fever ward without contracting the true disease, so that their freedom from a second attack is no proof of the genuineness of the first.

Another disease which is usually streptococcal, and which is supposed to induce special liability to an attack of scarlet fever, is puerperal fever. The occurrence of many of these cases without exposure to a previous case of scarlet fever suggests an autogenous origin.

Similarly the cases of so-called surgical scarlet fever following burns and other wounds in hospital wards, where there have been no previous cases of the disease, could be accounted for in the same manner. Cases not infrequently occur following tonsillotomy, the patients on admission to the isolation hospital showing a sloughing surface to the tonsil and the signs of a mild attack of scarlet fever. Of two cases of this character recently admitted to the isolation hospital neither developed a second attack during the usual detention in the scarlet fever ward.

The most important thing to decide in connexion with these cases is whether they are infectious. Apparently they are, though to a less extent than in the case of the common epidemic form.

Besides the groups of cases already dealt with in which there were obvious sources of pyogenic organisms, other sporadic cases frequently occur in rural districts in which there is no such source obvious, but which may still possibly be accounted for in a similar manner, such sources being more common than those of the infective agent of epidemic scarlet fever. In any event, the numbers of these cases is so considerable as to warrant the conclusion that a previous case of scarlet fever is not a necessary antecedent, although they present all the symptoms, usually in a modified degree, of the true disease.

If we recognise only the usual epidemic type as true scarlet fever, then it is unsafe definitely to diagnose as scarlet fever cases which present peeling of the tongue a few days following the appearance of a rash and sore-throat, and which shows marked peeling of the hands in the third week—signs which are generally considered pathognomonic of the disease.

The occurrence of associated purulent conditions in the cases mentioned is in all probability more than a coincidence, because their frequency is much greater than in the case of epidemic scarlet fever, and, moreover, no other likely origin could be traced for the cases. To make the proof complete it would no doubt be necessary to show that the percentage of these cases which arise in patients either suffering themselves, or who have been in contact with those suffering from some purulent condition, is greater than that of the accidental association of these conditions with ordinary scarlet fever.

Guildford.

DEVIZES COTTAGE HOSPITAL.—At Devizes on Oct. 18th Lord Radnor formally laid the foundation stone of the "King Edward VII. Hospital Extension," which is to be added to the Devizes Hospital. There was a large attendance, and the ceremony was carried out with full Masonic ritual. The extension will comprise the addition of a children's ward, and the practical reconstruction of the present administrative block, an operating theatre fitted up to modern requirements, and an X ray room.

TORSION OF THE FUNIS AS A CAUSE OF DEATH OF TWINS.

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AMONG the causes of death of the fœtus torsion of the cord is always named, but it seems that Martin, Ruge, Schauta, and most modern observers regard exaggerated torsion of the umbilical cord as a post-mortem occurrence, resulting from the great mobility within the uterine cavity of a fœtus that has died from the fifth to the seventh month of pregnancy.[1] According to Tarnier and Budin (1886), torsion of the cord generally has no bad effect, but they admit that there are cases recorded where the vessels were completely obliterated. It is at the umbilical extremity of the cord that exaggerated torsion is found most frequently, and it is much more rare at the placental insertion; but sometimes it is placed in the centre or middle of the cord. The old view was that in the majority of cases exaggerated torsion caused death of the fœtus, but the modern text-book seems to regard torsion of the cord as a matter of small concern, so that there is but little to extract when information on the subject is sought for.

The example now published is fairly complete in the details required for enabling judgment to be formed, because as soon as the pregnant woman lost the sense of movement she reported the occurrence, and ten days later the twins were expelled. Galabin and Blacker[2] state that torsion of the funis may be produced either after the death of the fœtus or during its life, but they admit that by causing obstruction of the vessels it may lead to the death of the fœtus. "In individual cases it is difficult to determine whether torsion is the consequence or the cause of the death of the fœtus."

The case shows that twins (females) were equally advanced in development up to the sixth month, that the death of one took place a short time before the death of the other, and that the fœtus dying first had the cord twisted at the umbilical insertion up to obliteration. The mother had had two living children previously and was familiar with the sensations of pregnancy. She counted from June 3rd, and felt movement up to the night of Nov. 12th. She was occupied in "ironing" on the 10th, and felt tired after, and on the 16th (the day she was seen) she stated that she felt the abdomen "heavy," "much heavier" than it had been. No movement was detected with the examining hands and no sound was heard with the stethoscope. There was no vaginal discharge. Several examinations confirmed the probability of a dead fœtus, and it was agreed that the womb should be cleared out. On Nov. 23rd a large dilator was inserted into the cervix, followed up by a finger, and the amnion was ruptured. Some hours later (about eight) twins (both dead) were easily and spontaneously expelled.

Reproduction of a photograph showing the difference between the twin fœtuses. SS, Shrunken scalp. TA, Torsion of abdominal wall following TC, torsion of cord. ED, Epidermis detached from leg and foot. TV, Thrombosis of vessels of cord and distension of cord; colour dark.

The twins were both female and presented different appearances. It was seen that the cord of one fœtus was twisted close to the body in such a way that it was reduced to the size of a pencil. The cord beyond was swollen to a considerable size in comparison with that of the other fœtus. The fœtus with the twisted cord was somewhat smaller than the other, the skin was peeling, and death had taken place not long before expulsion. Both fœtuses were in the first stage of decomposition—viz., peeling of the epidermis—but the fœtus with the twisted cord was more advanced in the process than the other. The scalp was looser and the body and limbs were of a darker colour. The skin of the abdomen at the umbilicus showed wrinkles and an attempt to follow the torsion of the cord. The skin of the other fœtus at the same spot was without wrinkles.

The inference drawn is that both fœtuses were developing equally, but that one began to turn and the cord became strangulated at the navel; circulation being cut off the fœtus died. The death of the first was not noticed by the mother, because the movements of the second fœtus continued. Then the placental circulation became interrupted and the second fœtus died, possibly from thrombosis, on Nov. 12th. There was probably not more than seven to ten days' interval between the death of the one and that of the other, judging by the appearance of the fœtus which died last.

There seems to be no other obvious cause for the death of the twin fœtuses except the torsion of the cord of one. There was no syphilis in question, and the parents were healthy. There had been a miscarriage at five months eight years

[1] Hirst, 1909.
[2] The Practice of Midwifery, 1910, p. 538.

previously. A girl born later had died from tuberculous peritonitis, but a boy aged 5 was alive, though frail looking.

The photograph taken shortly after the expulsion shows the cords of the twins inserted at opposite points in the placenta, the distension of the cord of the fœtus and the sharp twist at the navel, and the wall of the abdomen wrinkled. Comparison of the bodies shows the skin of the scalp and body more lax than the skin and scalp of the other fœtus, but the skins of both are seen in peeling stage. The appearances are consistent with the story of the mother, and it would hardly be expected that decomposition would be further advanced at the end of 11 days after cessation of movement in utero. If, therefore, the putrefactive changes were not widely different in the twins and were only a degree more in one than in the other, and one had a twisted cord while the other had not, it seems reasonable to infer that the fœtus with the obliterated cord died first, and that the death of the other followed not long after, say, seven or eight days or even less.

Tyler Smith and indeed all writers attribute torsion to the movements of the fœtus, and in the case of twins it is fair to suppose that there might be less space for movement. The exact position of the twist would depend upon intra-uterine conditions impossible to formulate. The cord may get an obliterating twist close to the body of the fœtus, or it may become equally obliterated by a twist somewhere in its course away from the fixed points at the placenta and navel.

The silence of text-books on torsion of the cord—with the exception of those authors quoted—suggests that either the question is too trivial for mention, or that the cases of death from intra-uterine torsion are few and far between. Then comes the statement that torsion is a post-mortem occurrence. That this may be so in many cases no one would question, but I do not consider that the case now recorded belongs to that class. Possibly few cases are on record where twin fœtuses grew equally for a certain time, and then one dying with a twisted cord caused the other to die also. I had a few years ago a twin birth, one child living and apparently healthy, whereas the small dead fœtus was quite black and shrunken. Syphilis was the reason, because the living child was the object of much anxiety and throve well on grey powder. The twins in the case recorded were not examined post mortem, and the appearances are those seen in the photograph.

Bibliography.—Transactions of the Obstetrical Society, vol. x., p. 94: "Dr. Rasch exhibited a fœtus and placenta (5 months ?) in which the cord was obliterated by twisting. Close to the navel of the fœtus the funis had the appearance of firmly twisted, thin cord of the thickness of a crow quill." Transactions of the Obstetrical Society, vol. xli., p. 51: "Dr. Westmacott exhibited a remarkable specimen of 'corkscrew funis'" (no details given). Transactions of the Obstetrical Society, vol. xxxi., p. 164: "Dr. M. Handfield-Jones showed specimens of curious twistings of the cords around fœtal limbs lashing them together, the funis in one case being dragged out into a thin, ribbed-like ligature, and it was a matter for surprise how the circulation could possibly have been carried out through such a flattened structure." Tarnier et Budin, vol. ii., p. 362: "The labours of Martin, of Ruge, and of Schauta show that in the great majority of cases it is not the exaggerated torsion of the cord which has brought about the death of the fœtus." The quotation from Hirst already alluded to seems somewhat too sweeping in view of the reference to Tarnier and Budin.

Carlisle.

THE ACTION OF THE PRODUCTS OF HOMOGENEOUS FŒTAL AUTOLYSIS ON MALIGNANT TUMOURS IN MAN.

PRELIMINARY NOTE.

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Translated from the Italian by ALEX. R. COLDSTREAM, *M.D. Edin., F.R.C.S. Edin., Florence.*

THE study of the biology of embryonic and neoplastic inoculations, which I undertook some time ago, has afforded me various results on which are founded the researches here detailed.

1. The observation of the extreme rarity of spontaneous malignant tumours in young rats. This fact recalls the absence, or the very exceptional occurrence, of simple neoplasms or specific tumours, as epitheliomas and sarcomas, in the newly born and young subjects, and leads one to believe that, in the early epochs of life, the factors necessary for the genesis of malignant tumours do not exist.[1]

2. The fact of the noteworthy and frequent resistance to the inoculation of neoplasms which rats acquire by previous injections of embryonic or fœtal tissues. Such a fact suggests the existence of some substances contained in, or originating from, the inoculated fœtal tissues which, on diffusion, render the subject immune to subsequent attempt to reproduce malignant growths.

3. The demonstration that homogeneous embryonic or fœtal tissues, when subjected to autolysis, by hypodermic injection or by local application, bring about the involution of the inoculated neoplastic elements, which always reproduce themselves and prove fatal. This fact strengthens a belief in the existence of substances which are generated by the special tissues during the process of autolysis, which when injected into the organism act on tumours in a way similar to that brought about by the preventive injection of embryonic or fœtal emulsion.

Accordingly, guided by these facts, I have deemed it well to examine the effect of homogeneous products of fœtal autolysis in cases of malignant tumours in the human subject. The observations, begun early in September, 1909, and continued without interruption, have been all conducted on inoperable cases, of which only 7 had received no surgical treatment, although seen by the ablest and most daring surgeons, when no operation was possible; 29 had been operated upon, even repeatedly, including recurrent cases and several with multiple and voluminous metastases. In each case the histological diagnosis was confirmed without exception, and the clinical evolution was followed up, both anatomically and microscopically, by means of the excision of small portions, repeated even eight times.

The number of cases submitted to the injections was 36. Of these, 14 stopped the treatment early by their own desire for various personal reasons, having received from three to ten injections. From the other 22 cases we must subtract four, in whom the treatment has been only recently begun, and, although in three of these the first subjective and objective symptoms of improvement have begun, one cannot as yet depend on any result.

There thus remain for consideration 18 patients affected by malignant tumours, varying in substance and position, who have followed up the treatment with regularity and perseverance. Of these, eight have derived no marked benefit, except in a few cases some delay in the progress of the tumour or an initial improvement of the general condition, but only to be followed by a progressive deterioration, so that in three of these cases a fatal result occurred, an inevitable event in inoperable tumours, and considered as imminent in all the cases confided to me.

As for the other ten cases, the beneficial effects are evident; and while in five cases the treatment is still proceeding, because the tumours have neither disappeared nor become modified in structure, in the other five cases the neoplastic tissues have completely disappeared, or in the residual tissue repeated excisions have demonstrated the complete transition of neoplastic into sclerotic connective tissue. Of these, three presented metastases which had degenerated sooner than the primary tumour in a manner analogous to that observed in four other cases in which the glandular metastases have now disappeared, although the original tumour, or its reproduction, still exists, more or less modified.

In the five cases in which an accurate and repeated histological examination of various portions of the neoplasms has abundantly proved the benefit of the treatment, we have to deal with three cancers of the breast, with multiple metastases, one cancer of the lower end of the rectum, and one adeno-carcinoma of the thyroid. The first case treated is omitted from this group, the only one in which a preliminary excision was not made. This case was diagnosed as epithelioma of the soft palate, with cervical metastasis. As soon as the injections were begun the various manifestations disappeared, and that quickly. In waiting for the result the pieces excised, examined when the involution was well advanced, yielded the typical histological appearance, by this time found to be constant, of a change of formation now no more recognisable by the finest methods; hence the doubt as to its nature.

In all the cases the process of cure was similar; the same

[1] THE LANCET, Oct. 15th, 1910, p. 1151.

leading phases were gone through, and the same definite structure attained. The local treatment by injection into the parenchyma provoked hæmorrhagic, necrobiotic, or necrotic areas around, which were rather more numerous and more extensive than those occasioned by the remote injections, of which the main feature was cytolysis with a moderate degree of substitutive connective tissue.

Except for this difference, constant microscopic results were successively found—viz., a diffuse cytolysis of the neoplastic cells, gradually more pronounced till the morphological entity was lost, and the elements had broken up; intense infiltration, especially among the smaller cells, more marked around the vessels of various sizes; the penetration of numerous phagocytes, small and great, and of cell plasma; the active proliferation of connective and vascular tissues, invading, in fact, the whole region, some with giant cells; the transformation of the tumour substance into adult connective tissue, both fibrillary and sclerotic, with a cessation, briefly, of all reaction and production of infiltration and multiplication.

In some cases there was intense vascular stimulation of a lymphatic type; whence came a turgidity of the neoplastic tissues, and a marked increase of volume, with a change of consistency, amounting to clear fluctuation. By aspiration, in such cases, a limpid lemon-yellow liquid is obtained, having the characteristics of a transudation, containing whitish particles in suspension.

After the fluid or the infiltration had been absorbed, the substitution of tissue already affected by degeneration and by cytolysis happens as usual, which process, in its complexity, forms a picture perfectly analogous to that described by me in the case of malignant sarcomas in rats treated by homogeneous fœtal "autolysates"; it is a condition, therefore, comparable to that of sarcomas and epitheliomas engrafted on rats, previously immunised by embryonic or fœtal inoculation. From which circumstance, in short, there is a resemblance to the spontaneous evolution displayed by tumours only slightly virulent, and to the embryonic graftings in the second period of the cycle—viz., in the state of regression and disappearance.

There is no need to insist in this short notice on the importance of this uniformity of course and of results, a proof of the existence of physio-pathological phenomena, explicable by general laws, revealing themselves with the greater intensity and diffusion according to the measure and coöperation of complex factors.

One must here pause to call attention to the analogy of the structural characters, as above explained, with those noted by various authors, especially of the school of Orth, in the very rare cases of spontaneous involution of tumours in the human subject, in which may be found "zones," more or less restricted or extensive, which are affected, as I believe, by products of limited autogenetic neoplastic cytolysis, due to partial breaking down from defective nutrition or from the formation of hæmorrhagic patches. Generally speaking, one meets also in such cases with the same phenomena and the same conditions, by means of which the organism in its various changes, with only its inherent powers of cure or aided by treatment, succeeds in substituting a pathological tissue, structurally and biologically hurtful, by a common cicatricial tissue, biologically innocent.

During the treatment I have succeeded in making some remarkable observations, and have studied the anatomy, histology, and pathology of the process. In the first place, I have been able to prove that the modifications in volume are not proportionate to those of structure, so much so, that the criterion of the dimensions or of the consistency is not always a safe guide to the estimate of the therapeutic effects. In fact, in some cases there are notable differences relating specially to the original size of the neoplasm, as also to the time occupied in the cure and its methods. For example, the cases of metastasis, which even if relatively large, may not assume excessive dimensions, and are often decidedly influenced by the products of autolysis, may disappear without leaving a trace. Voluminous tumours, on the other hand, especially if treated locally, require much time for their change of substance, particularly by reason of the formation, by direct and intense action, of hæmorrhagic, necrobiotic, or necrotic patches around which the process of disintegration is long and slow, and an excess of connective tissue is formed.

A typical example of such a course was displayed by a large cancer of the breast with metastasis, in which, after a preliminary course of general treatment, a slight diminution having taken place, an excision was performed in March, 1910. The microscopic examination showed the existence of an alveolar carcinoma, with zones of neoplastic cytolysis, infiltration of leucocytes, and proliferation of connective tissue. Owing to the bulk of the neoplasm, and in order to act more directly upon it, local injections were undertaken. In May the dimensions seemed increased, on which account the previously existing metastasis, above and below the clavicle, having disappeared, an operation was decided upon. The breast having been removed and the axilla cleared out, it was found that both the main mass of the tumour and the small axillary swellings were extensively composed of abundant sclerotic connective tissue, in which here and there were found the evidence of spaces with contained cells in such a condition of cytolysis as to be unrecognisable in their minute characters, having the appearance of coloured soil, suspended *in vacuo*, only here and there outlined by fine lines like cellular membranes. Although the operation could not be considered as radical, from examination of the piece removed, and although from the extensive destruction of the parts it was not possible to suture, at the first, the whole line of incision, by continuing the injections a regular granulation and formation of epithelium was obtained without proliferation of the neoplastic elements, as proved by histological examination.

Another case also noteworthy was the adeno-carcinoma of the thyroid, which at first by general treatment disappeared, apparently by cytolysis, and a slight production of fibroplastic material, so much so that the cure was somewhat prematurely stopped, no trace being found by palpation. In the recurrence local treatment led, by the usual stages, to the subsidence of the neoplastic tissue, and to its replacement by a quantity of sclerotic connective tissue.

Another remarkable observation proves the inherent differences in the methods of cure. In fact, while normal doses, injected under the skin in the most varied parts of the body, do not produce local or general phenomena of special interest, or, at least, in some cases treated by rather strong doses, only slight redness, temporary œdema, and a momentary rise of temperature, merely a fraction of a degree, the same doses, on the other hand, provoke intense and exaggerated phenomena of the same kind when injected into the neoplastic tissues. Individuals who have had several courses of ten doses each of general injections without disturbance, when the same doses are given into the parenchyma of the neoplasm readily showed a reaction, with fever up to 39° or 40° C., with rigors and headache, followed in a few hours by a cessation of such symptoms and profuse sweating. In a few days a redness appears over the neoplasm, at times fairly extensive, with swelling and hardness. If the injections be now continued, sometimes the extent of the parts so affected increases, distension and fluctuation are felt, due to the formation of the clear lemon-coloured fluid formerly referred to, which may be at times blood-stained, as the result of aspiration, and may rapidly re-accumulate and persist. It is well in such cases to make an incision and give vent to the fluid, which goes on flowing several days, and gives place to granulation and cicatrisation of the wound, and to the substitution of the neoplastic tissues. This process is rendered difficult, at first, by the distension and infiltration obstructing the more remote superficial lymph supplies, on which the newly formed cicatrix chiefly depends. In four cases at an advanced stage of the treatment a free incision of the neoplastic parenchyma, treated by simple dressing, resulted in a good cicatrix by granulation.

The difference in the general effects of the two methods of treatment was exhibited, with a variable frequency, by all the patients, to whom they were applied indifferently. And yet, while awaiting the report of the histological examination in order to confirm the clinical diagnosis, the latter (diagnosis) is assisted and anticipated by the fact that the strongest innocuous subcutaneous dose, at once and in a marked degree, gave rise to the above group of symptoms.

To elucidate the origin of this fact I experimented on rats and guinea-pigs, injecting varied doses of neoplastic and fœtal autolysates, and of fluid taken by aspiration from effusions formed locally by the treatment. The examination of symptoms, the result of necropsies, the microscopical changes, which were common to all the substances injected, have led me to a definite conclusion.

The principal lesions of the hyperæmic and hæmorrhagic

type, subsequently degenerative, which are only obtained by doses equivalent, relatively to the weight of the body, to 400, 700, or even 900 times that usually employed in the human body, are found in the excretory organs, the liver and kidneys, and in the internal protective secretory organs, as the pituitary and thyroid glands, and the suprarenal capsules, these last organs, indeed, being those most frequently and most seriously attacked by hæmorrhages. Such an anatomical and pathological condition, both naked-eye and microscopic, has been detected also, in the case of doses incapable of causing it in healthy guinea-pigs, in four which were accidentally found to be tuberculous at the necropsy, while the others of the same group showed no special alteration.

I have, therefore, come to regard the transitory group of symptoms as a slight, but complex, toxic phenomenon, favoured at first, in the case of local injections, by peculiar structural conditions, especially as regards the vascularity of the surrounding parts and the friability of the blood-vessels, leading to a more abundant and more rapid absorption by the blood; and, in the second place, increased by the excessive action due to the contemporaneous penetration of the products of cytolysis of the neoplasm, if such have already been formed. Such an explanation is confirmed by the fact that, on the disappearance of the neoplastic tissue, the effects of the local injections in no way differ from those of the general treatment.

The mechanism of the action of the autolysates requires diligent study before it can be defined with certainty and accuracy.

On a hypothesis based on somewhat similar work I have endeavoured to prove that, if we have to deal with an enzymatic process, it is most decidedly due to the combined action of all the enzymatic powers of the fœtal organism. I have, therefore, made numerous tests on films of the serum of coagulated blood, which were easily dissolved by even weak solutions of trypsin. The autolytic products from five sections of tumours of rats and from seven neoplasms from the human subject have afforded me on two occasions, and only one quite distinctly, zones of digestion. But out of 11 fœtal autolysates tested, differing as to the age of the fœtus and as to the stage of the experiment, none has dissolved the albumin subjected to the test. In the same way the fluid aspirated from the fluctuating parts produced by local treatment has given a negative result in two cases and a positive result in one, which was not trustworthy by reason of contamination of the material.

These tests on coagulated albumin and on extra-corporeal tissues are not proofs of the enzymatic property of fœtal autolysates. More numerous and more delicate researches are certainly necessary for such conclusions. It seems to me, however, fair to form some conclusion on the direct and elective actions of these autolysates.

The direct action in the living subject between the products of fœtal autolysis and neoplastic cells is proved by the following considerations:—

(*a*) The failure to immunise rats against the inoculation of homogeneous sarcoma, after preventive treatment, even much prolonged; their receptivity was not modified by the progressively increased injections of autolysates.

(*b*) There was no effect on the pulp of sarcoma produced by the serum of rats prepared with injections of homogeneous fœtal autolysates; the pulp thus employed acted like fresh pulp.

(*c*) The transitory resistance acquired by rats against tumours by preliminary inoculations of embryonic or fœtal tissues; this immunity ceases after a short time.

(*d*) The fact that if the treatment be suspended when no lumps are to be felt exceptionally a case may again develop the neoplasm from the residual elements, which are not apparently under the influence of hurtful substances produced by the organism for some time after the treatment.

(*e*) The readiness with which the changes in the parenchyma of the neoplasm are produced by local injections before the formation of antitoxins is possible.

(*f*) The persistence of the therapeutic action with local and general reaction, after even a fairly long period of treatment and numerous injections; there is, therefore, no evidence of immunisation.

The elective action is proved by the effects obtained by general injections in rats and in the human subject—e.g., in the case of a cancer of the rectum and in the early treatment of the adeno-carcinoma of the thyroid, as also in six out of seven cases of relapsing metastasis—by the fact that in the normal tissues there is no evident reaction; in fact, only during a few days a slight hyperæmia is met with at the point of injection, and sometimes a small zone adherent to the subcutaneous tissue which shows under the microscope a very fine structure with a fibrinous network and a few scattered leucocytes, whereas, in contrast to this condition, in the tissues under treatment the changes already described are found; by the clearly marked lesions which, soon after the injection into the substance of the neoplasm, appear along the line of puncture, such as are not found in normal tissues.

This double proof of the direct and elective action of the autolysates on the effect of the treatment points to the relation between the dose of the substance injected and the volume of the tumour. In practice it happens that, as we must not exceed certain fixed doses, if the tumours be unusually large the autolysates injected at a distance destroy a less amount of the neoplastic tissues than that formed in the same period of time. It is, accordingly, only possible to obtain a delay in the morbid process, which will become less and less important the more the disproportion will increase between the continued employment of the maximum dose adopted and the progressive increase of the volume of the tumour. In such cases one must have recourse to the most energetic local treatment, taking care in the case of marked œdema or evident effusions to aspirate, or in other ways to get rid of the products of neoplastic cytolysis.

Moreover, in such conditions of volume and rapid growth of the neoplasm, and of action of the autolysate both limited and proportionate to its dose, it increases the chance of success in destroying the neoplasm and in restoring the patient's health to excise or destroy freely in order to act on any possible residual cells, and on the metastasis, only by general treatment. Individuals with inoperable tumours can thus undergo the treatment without the risks due to the absorption of toxic products, especially such as are of neoplastic origin, and will exhibit, as early signs of improvement, marked modifications of their general condition, and especially of the blood.

This varied effect of one and the same treatment has suggested the hypothesis brought forward by Bagnami at a recent meeting of the Academy of Medicine of Rome, of the complexity of the substances contained in fœtal autolysates. Of such one group may have a stimulating action on the healthy tissues, and especially on the hæmopoietic organs; and another group may be responsible for the cytolytic action on the neoplastic tissues. One may also admit the existence of a single series of active principles, which would act successfuly, in different ways, according to whether they had to deal with normal cellular elements or neoplastic elements; hence a double favourable result.

The same mechanism of elective cytolytic action, without which the tumour would not otherwise disappear, forms a contra-indication to the treatment in cases with cachexia, in which, by all means, if a cure be undertaken, we must try to prevent the increase of intoxication. The toxic action inherent to the constitution and biology of malignant tumours discourages the use of their autolysates in experimental therapeutics, because there would result an excessive action, more intense and more serious than with other methods. It is necessary, in fact, to employ homogeneous embryonic or fœtal autolysates. In my cases I have employed embryos and fœtuses of from two to six months of intra-uterine life, adopting the products of *fœtal* autolysis more frequently and for a longer period.

It cannot be denied that autolysates from adult organisms may possess a similar action, although it must be reckoned less efficacious, to judge from the less potency and the less frequency with which they confer an immunity against tumours as appears from numerous experiments. It seems to be rather more difficult to admit the same beneficial power in the case of heterogeneous autolysates, especially as on the basis of modern researches on tumours the laws of biological selection appear to be distinctly confirmed under the most varied aspects.

The homogeneous fœtal autolysates are prepared by ordinary methods, observing the strictest rules of asepsis. The fragments, or the pabulum, of the fœtus are placed in a physiological solution, of an average strength of 1 grm. to 20 cgrm., a suitable quantity of thymol or phenic acid being

added, and covered by a layer of sterilised oil or toluol. The mixture remains in the incubator at 37° C. for about two months, and prior to use its sterility is tested.

The injections vary in dose from 2 to 3 c.c. twice to four times a week, according to the patient's age, condition, individual tolerance, the bulk of the tumour, the seat of the injection, and the specific gravity of the autolysates, which latter ought to be, at the moment of their employment, a homogeneous emulsion, and not a clear superjacent mixture. The treatment extends to a variable number of months, according to the local and general conditions.

While in this article I limit myself to describe the action of autolysates on malignant tumours in the human subject, and to make a general statement as to their therapeutic effect, I have at the same time arrived at conclusions of some statistical value, which prove the exactitude of all I have stated, but do not admit the conception of a statistical comparison. Such could only be made after a study of numerous cases, and only when time, rather than repeated excisions and numerous histological controls, shall have proved that even the last neoplastic cells have been destroyed, and consequently all danger of recurrence eliminated. All the more the fact remains that, without proof of an immunisation, there remains in every individual the possibility of the development of blastomic cells, on which account, if all the conditions requisite for the formation of a neoplasm be again present, the subject in question is always liable to, and helpless against, such a contingency.

The observations, however, made on both men and animals have so far proved that, if the treatment be persisted in for some time after its evolution and disappearance, the tumour does not recur. And if, as an exception, a case in the human subject relapse on account of a premature suspension of the injections, if the latter be resumed their effects are again manifest. Time only will permit of the collective study of cases submitted to this treatment in more favourable conditions than were hitherto possible, when one may be able to supervise and study the process in every detail, with fresh material, and, by this original method, deal with inoperable cases of voluminous tumours and their metastases.

Finally, I desire to add that I have indicated the method and its results in detail, because, as may be readily understood, in relating the clinical researches, which are indispensable for a fair conclusion, one has to bear in mind the relative number of cases treated and the long time of trial necessary for a satisfactory judgment.

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Rome.

UNIVERSITY OF LONDON.—The Graham scholarship in pathology of the value of £200 a year, tenable at University College Hospital Medical School, was awarded for the sessions 1911–12 and 1912–13 to Mr. H. G. Butterfield, M.A., B.M., B Ch., of Wadham College, Oxford, and University College Hospital.—The Brown Animal Sanatory Institution Committee have appointed Sir William Church as their chairman, and the members of the Senate Committee have appointed as chairman Dr. Frederick Taylor.—In response to the appeal to raise £15,000 as a building fund for the Galton Laboratory for National Eugenics, sums amounting to a total of £2260 have already been given, promised, or promised conditionally on the buildings being commenced within two years.

Clinical Notes:

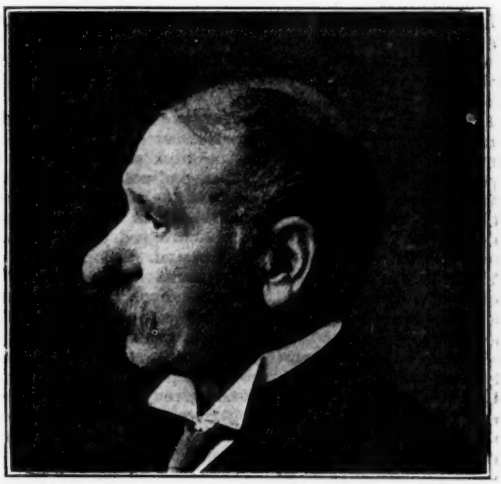
MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

THE RESULTS OF OPERATION IN A CASE OF HAMMER NOSE.

BY F. B. JEFFERISS, F.R.C.S. EDIN., M.R.C.S. ENG., L.R.C.P. LOND.

As the effects of operative interference in cases of rhinophyma, or hammer nose, are not often seen the accompanying photographs of a case of this kind may be of interest. This distressing condition first appeared when the patient was

FIG. 1.



26 years of age, and grew steadily worse, making his life a misery and his nose a constant source of annoyance to himself on account of the attention and ridicule it evoked.

The patient at the time of operation was 64 years of age. He was, and had always been, temperate. With

FIG. 2.

the exception of a faint aortic bruit he was a healthy man and had had no serious illness. Under chloroform anæsthesia the whole of the superfluous tissue was removed

in one piece by two lateral incisions in a wedge-shape, leaving a V-shaped shallow cavity with the incision extending down to the cartilage. The "flaps" were then trimmed somewhat and brought together by three or four catgut stitches. There was considerable hæmorrhage, necessitating ligature of several small vessels. The wound healed rapidly, and the result is in every way satisfactory, little scar remaining.

The marked improvement in the man's features and general bearing is shown in the photograph, and the satisfaction derived by him from the fact that his personal appearance is no longer a subject of notice or comment is an ample reward for undergoing so simple an operation.

Chatham.

NOTES ON A CASE OF OPERATION FOR RUPTURED MENINGO-ENCEPHALOCELE.

BY WILLIAM EDMOND, F.R.C.S. ENG.,
RESIDENT MEDICAL OFFICER, LONDON TEMPERANCE HOSPITAL.

IT is not often that one is suddenly called upon to deal with a case of meningo-encephalocele, so that the publication of the following case may be of interest to the profession, particularly as regards the severity of the operation and the somewhat unexpected recovery of the patient.

A newly born infant was brought to the London Temperance Hospital by the midwife in attendance at the labour on account of a large swelling at the back of the head. It appeared that the labour had been protracted and difficult owing to a mass which presented at the side of the head. Whilst the head was being delivered the swelling burst, which alarmed her so much that she wrapped the baby in a blanket and hurried with it to the hospital.

The child, who weighed 7 lb., appeared healthy, was of a good colour, and cried lustily when handled. The pulse-rate was 145. Over the posterior fontanelle was a large swelling. The skin covering it was thin and flaccid and showed a few dark hairs. At the most prominent part the skin had evidently been subjected to prolonged pressure; it was dark red, almost black in places, and had given way, so that there was a ragged tear 2½ inches long from which blood-stained cerebro-spinal fluid was dripping and portions of brain material protruding. When the child cried there was a marked impulse. There did not appear to be any hydrocephalus associated with the condition. It was clearly a case that called for some radical measure if the child's life was to be prolonged. The sloughing condition of the coverings of the hernia precluded the possibility of repairing the rent by suture, nor was there any pedicle which might have been tied. An attempt at partial reduction by sponge pressure sent the child into convulsions. Under the circumstances I decided to operate.

The child was first quieted by a few drops of chloroform. The head was prepared as carefully as possible and covered with sterile gauze. An attempt was made to apply a cranial tourniquet, but owing to the shape and the yielding nature of the head this was unsuccessful. Under a stream of warm normal saline solution two flaps of healthy skin were cut—one from the upper, and one from the under surface of the hernia. The underlying dura mater was found to be very adherent, and had to be dissected off the skin flaps. Two lateral flaps of dura were then formed, during which the superior longitudinal sinus had to be sutured. The contents of the sac appeared to be loose, spongy connective tissue, but at the base there was a considerable protrusion of brain substance on either side of the exposed falx cerebri. It was found necessary to remove this portion of the brain, and after the vessels had been tied the dura was brought together, the edges overlapped and sutured to each other, and to the falx cerebri. This secured an almost watertight union. The skin flaps were then united by a continuous silk suture and a firm pad was applied. When sutured the incision, which was transverse, measured 2 inches. The child was convulsed during the removal of the brain substance and the opposing of the flaps of dura.

For the first 24 hours there was some leakage of cerebro-spinal fluid—in all, about one ounce—through the right extremity of the incision. This point was touched with the cautery, and from that time the wound kept dry. The sutures were removed on the ninth day. There was no motor paralysis, nor, as far as I could determine, any visual defect, which is surprising in view of the fact that the portions of lacerated brain removed must have come from the neighbourhood of the occipital poles. The child was discharged from hospital at the end of the third week.

NOTES OF A CASE OF STRANGULATED *LEFT* INGUINAL HERNIA WHOSE SAC CONTAINED THE APPENDIX VERMIFORMIS (INFLAMED), THE CÆCUM, AND THE ILEO-CÆCAL VALVE.

BY DOUGLAS GORDON CHEYNE, M.B., CH.B. ABERD.,
RESIDENT MEDICAL OFFICER, ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN.

THE condition presented in the following case is, I think, so unusual as to justify publication.

The patient, a male child aged 2 years, was admitted to the Royal Waterloo Hospital on May 7th, 1911, at 7 P.M. The history obtained from the mother was as follows. The patient had had a rupture on the left side since soon after birth. For five days previous to admission the child had had a cough. During this time the rupture had gradually increased in size, and for two days it had been irreducible, a complication which had not occurred before. Since the rupture had become irreducible the bowels had been absolutely constipated. The child had vomited once shortly before admission.

On admission the child was seen to be well nourished. Temperature, 99·8° F.; pulse, 140; respirations, 25. There was evidence of bronchitis on auscultation. The legs were held in the position of flexion, with the abdomen rigid. The left half of the scrotum was occupied by an oval swelling of the size of a turkey's egg. It was tender on palpation, dull on percussion, and absolutely irreducible even after a hot bath and an enema.

Mr. Ivor Back, whom I have to thank for allowing me to publish this case, operated at 10 P.M. An incision was made over the swelling; the sac was exposed and opened. Two to three ounces of yellow fluid escaped. Intestine then came into view; this consisted of the cæcum, the appendix, and 2 or 3 inches of ileum. The constriction, which was at the internal ring, was divided. Strangulation was just beginning, the gut being congested and purplish in colour at the point of constriction. The appendix was large and reddened. It was removed in the ordinary manner. The pathological report was: "Acute diffuse inflammation." The intestine was then returned to the abdomen, and an ordinary radical cure (Bassini) was performed. Convalescence was uneventful.

The unusual interest of the case lies in the fact that not only was the appendix in the sac of a *left* inguinal hernia, but that it was also definitely inflamed. I should add that I have examined the child and can find no evidence of any inversion of the viscera.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

Slight Strokes.

A MEETING of this section was held on Oct. 24th, Dr. FREDERICK TAYLOR, the President, being in the chair.

Dr. S. T. PRUEN read a paper on Slight Strokes. He said that some years ago, having been called to see an old lady, who mentioned amongst other matters that she had been worried with a feeling of pins and needles which had occurred simultaneously in the right arm and leg, which feeling had come on quite suddenly and had passed off, though not completely, in the course of a few hours, he had been driven to the conclusion that the cause must have been cerebral in origin and might have been a stroke. Within a month this old lady had a stroke affecting the right leg, and within a year an attack of right hemiplegia which caused her death a few days later. This case caused Dr. Pruen to watch all his elderly patients and to inquire into the antecedents of all those who had obvious strokes; with the result that it was found that

many of them could give histories of previous slight attacks of most varied kinds. In this way Dr. Pruen collected 18 or 20 symptoms or groups of symptoms. In his opinion, more than three-fourths of the classical strokes have these symptoms as a prelude once or twice repeated. Dr. Pruen quoted the description of a first stroke from Dr. Samuel Gee's "Clinical Aphorisms," which says: "The first thing you observe is that his speech is indistinct in consequence of defective articulation. He complains of a feeling of numbness in the right arm and leg, especially in the hand; and, on further examination, you discover that he is suffering from a slight hemiplegia on the right side, affecting arm, leg, and face." Dr. Pruen said that his own observations led him to believe that this stroke was probably not the first from which the particular patient suffered, but that it was more likely to have been the second and might have been the third. In describing the symptoms which in his opinion constitute slight strokes Dr. Pruen premised that the patient is over 50 years old; the attack is a unique experience as far as the patient is aware; the attack comes on with absolute suddenness; and that the symptoms disappear very slowly but with a steady progress. The symptoms he had observed were: (1) Pins and needles in the arm and leg simultaneously; (2) stumbling with obviously no cause; (3) giddiness; (4) nausea; (5) palpitation; (6) faintness; (7) sudden weakness; (8) confusion of ideas; (9) change of character; (10) headache; (11) sleepiness; (12) feeling of deadness in the abdomen; (13) paresis of one vocal cord; (14) wasting; (15) dysphagia; (16) odd feeling. Frequently there was a combination of one or more of these symptoms, but in almost every case one symptom predominated. Dr. Pruen had been much struck with the large part the vagus (and presumably the sympathetic) plays in the condition of a patient who has had a stroke. He considered that degeneration of the vascular system and some local increase of tension were the probable accompaniments, if not the determining causes, of slight strokes; and he thought that the vascular changes were of a more insidious nature than those usually associated with strokes. The causes which above all others seemed to produce them were mental ones, either sudden shock or prolonged worry. Dr. Pruen, summing up his paper, said that slight strokes almost always preceded ordinary ones, that slight strokes were always followed by ordinary ones, that the nervous implication in strokes was always more widespread than was generally recognised, that the predisposing causes of strokes were not the gross lesions generally associated with them, and that molecular, rather than molar, movement was the determining factor.

Dr. J. W. CARR said that the practical outcome of the paper was the help it afforded not only in recognising the symptoms of slight strokes and the dangers which they implied but also in taking precautions to ward off any future attacks. He commented on the difficulties in diagnosing cerebral hæmorrhage and thrombosis.

Dr. F. PARKES WEBER, alluding to the dilatation of the bladder and constipation referred to by Dr. Pruen as due to some dulling of sensibility, suggested that in some cases in elderly persons it was due rather to dulling of muscular sensibility than to dulling of the sensitiveness of mucous membrane.

Dr. MICHAEL G. FOSTER described instances in which transient aphasia with partial paresis had occurred in parturient women.

Dr. ROBERT HUTCHISON declared that the paper was valuable because it was based on the experience in general practice by a man who saw a great number of elderly patients, and the members of the section would like to hear more papers of the kind. He referred to the transient hemiplegia which may take place in the course of migraine.

After Dr. PRUEN had replied the meeting came to an end.

PATHOLOGICAL SECTION.

President's Opening Remarks.—Experimental Production of Appendicitis by Intravenous Inoculation of a Diplococcus.—Sarcoma-producing Mouse Carcinoma.—Muci-carmine Staining Method.—Carcinoma of the Uterus in a Rabbit.

A MEETING of this section was held on Oct. 17th, Dr. R. T. HEWLETT, the President, being in the chair.

The PRESIDENT, in the course of his Opening Remarks, said that on looking back over the progress of pathology during the last 20 years he was more and more struck with the wide range of knowledge required if the pathologist was to follow, even in outline, the output of pathological work. Reference was made to the importance of chemical and physical applications in biology and pathology. As regarded physical factors, he referred to Professor D'Arcy Thompson's address at the British Association on the influence of physical forces in moulding the form of living organisms. The similarity of organic forms and those which physical forces were competent to produce had revived the idea of the possibility of spontaneous generation, and the work of Burke, Leduc, and others suggested that this problem, which had been worked at persistently by Bastian for so many years, could not be dismissed so contemptuously as formerly, and was worthy of critical work in order to elucidate it. Reference was made to the value and limitations of biometrical methods in experimental work, and, finally, the President pointed out the advantage which the society offered to those who contributed papers—viz., speedy publication.

Dr. F. J. POYNTON and Dr. ALEXANDER PAINE read a paper entitled "A Further Contribution to the Study of Rheumatism, the Experimental Production of Appendicitis by the Intravenous Inoculation of the Diplococcus," which is published in full in this issue of THE LANCET, p. 1189.

Mr. S. G. SHATTOCK and Dr. L. S. DUDGEON communicated the result of an experiment made with a Sarcoma-producing Mouse Carcinoma. The observations of Ehrlich and Apolant, that certain mouse carcinomata on being grafted into a further series of mice were replaced by sarcomatous formations, had been amply confirmed by Dr. B. R G. Russell. The theoretical difficulty of explaining such a result on the assumption that the epithelial cells of the grafted carcinoma furnish the cells of the sarcoma was so insuperable that the only way of evading it would be to regard the grafted tumour as an endothelioma in place of a proper carcinoma. The transformation of epithelial cells into connective tissue was a phenomenon unknown, at least after the conclusion of embryonic development, whereas the same transformation of endothelium, seeing that the latter tissue was of mesoblastic source, did not present the same difficulty; the fibroblasts produced in the organisation of an intravascular thrombus were derived from the proliferated endothelium of the vessel. The apparent transformation, however, offered no histological anomaly, for the simple reason that the process was one not of transformation but of substitution; the sarcomatous growth arose from the connective tissue of the host. The experiment of the authors consisted in the repeated subcutaneous insertion of the particular tumour worked at by Dr. Russell, but after the cells had been rapidly killed by drying the pulp in the layers at 37° C. In the group of cases, six mice received four subcutaneous injections of the dried material after it had been re-made into a pulp by moistening it with salt solution. The injections were made weekly in the same region. No growth of any kind ensued. The experiments showed that for the incitement of the sarcomatous growth in the host, the action of the living carcinoma cells was necessary, and that the access to the circumjacent tissue of the materials extractable from the dead cells was not sufficient.

Mr. P. P. COLE gave a demonstration illustrating the use and value of Muci-carmine as a Staining Reagent. He showed that the results obtained with this stain were constant and accurate, provided the stain was made properly. He described the method of making the stain and advocated as a fixative a saturated solution of perchloride of mercury with the addition of 5 per cent. of glacial acetic acid. He referred to the adoption of this stain by Mr. W. Sampson Handley in the investigation of cancer of the large bowel, and indicated that the merest traces of mucus were picked out with the utmost accuracy, leaving other tissues unstained.

Dr. A. LEITCH read a paper on Carcinoma of the Uterus in a Rabbit.

OPHTHALMOLOGICAL SOCIETY.

Presidential Address.—Hereditary Cataract.—Hereditary Night-blindness.—Exhibition of Cases and Specimen.

A MEETING of this society was held on Oct. 19th, Mr. J. BOWRING LAWFORD, the President, being in the chair.

After the formal presentation of vol. xxxi. of the Transactions the PRESIDENT delivered his Introductory Address.

Having referred to his election as President in a few graceful and grateful phrases Mr. Lawford proceeded to deal, in considerable detail, with the subject of vaccine therapy, passing in review the work of many continental and British investigators, and then went on to refer to their bearing on the treatment of eye diseases. He concluded by a reference to immunity, active and passive, and to the prospect of success in eye diseases. Sympathetically appreciative allusion was made by the President to the decease of Dr. Hughlings Jackson, one of the original members of the society, and to the fact that he was one of the earliest physicians to insist on the importance of ophthalmoscopic examination in diseases of the nervous system.

Mr. E. NETTLESHIP communicated, for Dr. J. S. Manson of Warrington, a paper entitled "A Case of Hereditary Cataract." It was a case of hereditary lamellar cataract occurring in four consecutive generations, affecting 13 persons (6 males and 7 females), and transmitted in all cases by females who were themselves affected. Three members of the pedigree, in three different generations, had a congenital deformity of the little fingers, which appeared to have been independent of the cataract, for only one individual showed both the digital and lenticular abnormality.

Mr. NETTLESHIP also contributed a paper entitled, "A New Case of Hereditary Night-blindness." It was the form without opthalmoscopic changes, in which the abnormality was associated with myopia, and descended, as in colour-blindness and several other conditions, through females themselves normal. Twenty cases had been discovered in this extensive genealogy. Photometric records and field measurements of several were recorded; in one there was a partial ring scotoma. Several members of the pedigree were myopic without being night-blind, and several (some of them night-blind, others with normal sight) were mentally affected. There was only one consanguineous marriage in the entire pedigree.

The following cases and specimen were shown:—

Mr. GEORGE COATS: Two cases showing a Small Superficial Opaque Ring in the Cornea. Mr. Coats thought that if it was not a deposit it must be a congenital opacity. He had seen another case of the same kind.

Mr. N. BISHOP HARMAN demonstrated a new Photometer for school doctors, a portable and simple instrument whereby an exact knowledge of the amount of light existing in schools, without relying on the uncertainties of personal estimates, could be obtained in candle-power—that of the ordinary London sperm candle.

Lieutenant-Colonel L. J. PISANI, I.M.S.: A case of Cyst of the Iris.

Major W. T. MOULD, R.A.M.C.: A case of Vaccine Pustule in the Eyelid.

Mr. R. A. GREEVES: A case of Tumour of the Ciliary Body in which there was recurrence after removal. Neither caustics nor the application of CO_2 checked its growth.

Dr. D. G. GREENFIELD: A case of Unilateral Optic Neuritis in a case of Disseminated Sclerosis.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.

Eclampsia.

A MEETING of this society was held on Oct. 13th, Mr. J. M. ACKLAND, the President, being in the chair.

Dr. G. P. D. HAWKER showed a case of Extensive Osteoma of the Tibia in a middle-aged woman. He then read a paper, illustrated by a case recently under his care, to open a discussion on Eclampsia. The patient was a primipara, aged 25 years, whose family history showed an unstable nervous equilibrium, the woman herself being distinctly of the nervous type. There was a history of scanty urine, with a heavy deposit of "sand." During the later months her legs had swelled. In the course of the last few weeks she had had what the neighbours called hysterical fits, in which there was no history of loss of consciousness or of biting of the tongue. She had cried out freely during the attacks and had never fallen. When summoned at 11.30 A.M. on Jan. 27th Dr. Hawker found labour pains, which had been established for 12 hours, now vigorous and recurring every five minutes. The os was the size of half a crown and the presentation and pains appeared to be normal. The general condition was satisfactory. A little urine had been passed at 9 A.M. Fifteen grains of chloral were given. At 3 P.M. Dr. Hawker found the os fully dilated and the pains strong; ten minutes later there was a general convulsive fit lasting three minutes. Chloroform was at once administered and a catheter passed, bloody urine being drawn off. A colleague was sent for and instrumental delivery carried out. Immediately the forceps was applied a fit occurred, followed by two others at rapid intervals. With the third fit delivery was effected, but with considerable laceration of the perineum. The placenta gave little trouble, but two or three smaller fits occurred during the repair of the perineum. One drachm of bromide was given by the rectum. At 7.30 P.M. she had had seven fits in all and was unconscious, with widely dilated pupils and arched back. Slight fits continued up to 10 P.M., when the bromide was repeated. At 11.30 P.M. the pulse was 124 and the temperature 103° F. During the night 11 fits occurred in spite of bromide every three hours and a hot pack. On the 28th a pint of urine was drawn off by catheter and found to be of specific gravity 1020 and to contain one-third albumin. The fits now lessened both in frequency and violence, but she was still unconscious. The knee-jerks were exaggerated and Babinski's sign was present. On the 29th there had been no fits since 9 P.M. the previous night, and albumin had fallen to one-tenth. Blood cells and casts were present. On the 30th she was semi-conscious; she had passed urine. The discs, examined on this day, were found to be blurred, but no hæmorrhages were noted. The plantar reflex was now flexor. On the 31st there was incontinence of urine and fæces. Bromides were stopped. Further progress was gradual, but in the main satisfactory. She was quite rational on Feb. 3rd, and there was no incontinence. The temperature, never high save on the day of delivery, now reached the normal. The urine still contained a trace of albumin, but no casts were noted. On March 10th she was convalescent and allowed to get up. The urine was found free of albumin and no casts were noted. Dr. Hawker emphasised the fact that this patient had had symptoms for two months before delivery, but as there had been concomitant indigestion she had subsisted mainly on a milk diet, and thus unconsciously had adopted the right diet for her condition. The fits which occurred prior to labour appeared to have been really hysterical. The actual eclamptic convulsions did not occur until labour was well advanced, and were well controlled by chloroform. He attributed recovery in this case to the good nursing, the constant alteration of position, thereby avoiding pulmonary œdema, and to the diminution of toxins by copious saline enemata and frequent hot packs. A notable point was the absence of albumin or casts in the urine at the end of six months. Dr. Hawker felt somewhat at a loss for an explanation of the presence of Babinski's sign on the second day. His hospital experience had not impressed him with the value of morphine in the treatment, more especially in relation to pulmonary complications—œdema of the lung being the rule where this drug had been employed. The number of fits seemed to have no bearing on prognosis, but he considered that the inception of convulsions after labour was a bad sign. Dr. Hawker referred briefly to the pathology of eclampsia and mentioned Albec's and Lotze's injection experiments with liquor amnii.[1] Animals so injected showed the same changes in the liver as patients dying from the disorder. Normal liquor used as a control was innocuous. Disintegration of the placenta would be the primary cause. As regards treatment, a recent meeting of the Obstetrical Section of the Royal Society of Medicine seemed to be in favour of emptying the uterus. Out of 36 cases reported by Dr. W. Alexander,[2] of Liverpool Workhouse Hospital 7 cases were hastened, with 2 deaths, a mortality of 28·5 per cent.; whereas 29 were delivered naturally, with a mortality of 9—i.e., 31 per cent. Dr. Alexander's treatment consisted of saline purgatives, diuretics, and saline injections, together with nerve sedatives such as bromide, chloral, and morphia. He also cited Dr. Hastings Tweedy's report of 30 cases of eclampsia at the Rotunda Hospital.[3]

Dr. A. W. F. SAYRES mentioned a severe case he had recently met with in his own practice. Dilatation, version, and instrumental delivery were performed, but the subsequent condition became one of deepening coma. Dr. Sayres

[1] British Journal of Obstetrics, August, 1905.
[2] THE LANCET, Jan. 28th, 1911, p. 217.
[3] THE LANCET, Feb. 4th, 1911, p. 306.

attributed the eventual recovery to the agency of hot packs. The woman became maniacal during the first week, but at the end of one month convalescence was well established.

Dr. C. J. VLIELAND reported two cases, in one of which he had performed version and accelerated delivery. Severe fits followed, but when the patient was almost *in extremis* recovery followed promptly on venesection. The urine subsequently cleared of albumin. In the second case delivery was not hurried, and the woman did well. His experience of these cases gained from 30 years of private practice was against violent emptying of the uterus.

Dr. HENRY DAVY did not think that the placental theory was proved. In his experience post-partum cases were the most serious; the majority he had seen had proved fatal. He always dreaded a case of eclampsia in which the convulsions did not appear until after labour had been completed. He spoke only as a physician.

Dr. R. V. SOLLY spoke in support of the placental theory in the pathology of the disease. Taking into account the post-mortem changes in the liver and kidneys, chloroform was not justifiable in the treatment. Bleeding and subsequent substitution by saline solution were more practical. He had seen Dr. Hawker's case with him, and testified to the value of the packs.

Mr. RUSSELL COOMBE commented on the weakness of the soda solution (30 grains to the pint) advocated by Dr. Tweedy.

Dr. SHIRLEY STEELE PERKINS quoted two of his own cases in one of which the convulsions arose post partum and death occurred in six hours, no treatment having the slightest influence. In the second case, convulsions were established when the cervix admitted but two fingers. He dilated and delivered. Recovery was complete. These cases supported the relation of onset of fits to prognosis enunciated by Dr. Davy and Dr. Hawker. As regards treatment, Dr. Perkins advocated delivery, and subsequent pilocarpine subcutaneous injections, with hot packs.

Mr. C. E. BELL mentioned a severe case of eclampsia where chloroform inhalations were long maintained without disastrous after-effects. His own experience of chloroform was favourable and he had recently seen a case in which recovery followed salines alone. His experience of post-partum eclampsia was a most melancholy one.

Mr. G. L. THORNTON recollected a case some 14 years ago where convulsions and albuminuria came on at the sixth month in a previously healthy multipara. The fits recurred at short intervals, and chloroform was required for the passage of a catheter. Coma being imminent the emptying of the uterus was discussed, but on the advice of a practitioner of some 50 years' experience bromide and chloral were given, with the result that the fits gradually ceased and albuminuria diminished. The woman was subsequently delivered of twins at full term and made a good recovery. There was no recurrence of the eclampsia, but some albuminuria remained. Mr. Thornton also briefly referred to a recent case of a multipara who had enjoyed good health prior to a molar pregnancy. When summoned to her he found general anasarca, œdema of the lungs, and a high degree of albuminuria, with numerous casts. After delivery albuminuria and anasarca rapidly disappeared. There were no convulsions, but the patient was at times extremely drowsy. This case, though perhaps not quite comparable with those previously cited, supported the intra-uterine auto-intoxication theory with regard to the production of the nephritis.

Dr. HAWKER replied.

OXFORD MEDICAL SOCIETY.—The first meeting of the session of this society was held in the Radcliffe Infirmary on Oct. 13th, Mr. R. H. A. Whitelocke, the President, being in the chair.—Dr. H. G. Frean related the history of an Indian, aged 20, of a quiet studious temperament, who was found at 6.30 one morning in bed deeply unconscious. The breathing was deep and stertorous and the dejecta had been passed into the bed. The pulse was full, 84 per minute. The limbs were flaccid; there was only a slight corneal reflex. The pupils were moderate in size and the temperature was raised. There was a gradual but slow return of consciousness within the next 48 hours. The patient remembered nothing of the previous two days. The evening before the attack he had dined quietly with his tutor. There was no history of any excess and no previous history of epilepsy.—Mr. P. E. H. Adams gave the history of a case of Double Proptosis in a male aged 50. This began suddenly with an irritation in the right eye, which became puffy and later definitely proptosed, and the vision deficient. No inflammatory trouble could be detected by puncture of the orbital tissues on two occasions. Proptosis and chemosis followed in the left eye. The temperature rose, and the patient died in 48 hours from the beginning of the symptoms. At the necropsy the right sphenoidal sinus was inflamed and contained muco-pus. The inflammation had spread to the right cavernous sinus, from which it had tracked over to the left, and there was early acute meningitis.—Dr. E. Mallam showed a case of Crossed Paralysis in a woman aged 56. The history began in 1906, when the eyesight became impaired. At the present time she had a nuclear or nerve lesion of the third, fourth, and sixth nerves of the left side. On the right side there was a supra-nuclear lesion of the seventh nerve, hemiplegia of the right side of the body, and blindness in the right field of vision, the left halves of both retinæ being insensitive. There were no signs of intracranial pressure and there had only been occasional, though at times severe, headache. The condition was thought to be one of gummatous meningitis, and the patient was improving on potassium iodide.—Mr. E. W. M. Higgs described a case of a woman, aged 23, in whom Eclampsia began at full time. Chloroform was given, the membranes were ruptured, and internal version was performed. The child was born without difficulty. In removing a slightly delayed placenta it was found that the uterus had been torn from the vagina and the omentum was projecting through. The patient was in such a critical condition that it was deemed advisable to do nothing but give an ordinary vaginal douche. The unconsciousness, with occasional convulsions, persisted for four days, and the temperature was raised. In the fourth week the patient was normal except for white leg. In the seventh week the patient was able to get up, and since that time she has been in very good health.

THE NEW LONDON DERMATOLOGICAL SOCIETY.—A meeting of this society was held on Oct. 12th, Dr. Phineas S. Abraham, the President, being in the chair.—Dr. W. Knowsley Sibley showed: (1) A woman with Leucoderma, treated by hyperæmia and by cataphoresis with corrosive sublimate solution; (2) a young woman with Bazin's Disease, associated with Scrofulodermia, in whom the von Pirquet reaction was positive; (3) a man with Popliteal Eczema of 14 years' duration, cured by X rays; (4) a man, aged 56, with Chronic Urticaria associated with Pyorrhœa Alveolaris, who had been treated successfully by a vaccine, with the result that the insomnia, as well as the eruption, had now disappeared; (5) a woman, exhibited at a previous meeting of the society, with Dermatitis Herpetiformis, to show the improvement that had taken place as a result of the administration of a vaccine; and (6) a man with severe Tinea Sycosis.—Dr. G. Norman Meachen showed: (1) A child with Urticaria Pigmentosa; (2) a boy, aged 8, with Parapsoriasis of Brocq; and (3) a boy, aged 11, with Late Hæmorrhage occurring in the Telangiectases after X ray treatment for enlarged tuberculous glands in the neck; no exposures had been given for two years.—Dr. Harry Samuel showed a man with a Roseolar as well as a Maculo-Papular Secondary Syphilitic Eruption.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—Mr. Norman Porritt, L.R.C.P. Lond., M.R.C.S. Eng., was presented at the annual dinner of the Huddersfield Medical Society on Oct. 18th with two pairs of silver candlesticks. In making the presentation Dr. J. Irving said that Mr. Porritt, who was retiring from practice, would carry with him the affectionate regard of all his patients and the good will and esteem of every member of the medical profession who had been brought into contact with him. The presentation included two silver vases for Mrs. Porritt.—At the annual meeting of the Bristol Centre of the St. John Ambulance Association, held recently, Mr. Cyril Claude Lavington, M.B., B.S. Durh., was presented with a vellum vote of thanks conferred by his Royal Highness the Grand Prior and the Chapter-General of the Order of St. John of Jerusalem, in recognition of his special services in connexion with ambulance work in Bristol.

Reviews and Notices of Books.

A Traveller's Study of Health and Empire. By FRANCIS FREMANTLE, County Medical Officer of Health. London: John Ouseley, Limited. 1911. Pp. 369. Price 7*s.* 6*d.* net.

THE author of this volume has had within the last few years the opportunity of extended travel undertaken with the object of studying the problems of public health in relation to various peoples and races and systems of government. His aim is to persuade the public of the significance of these problems, and to secure a due attention to their solution in the future administration of the British Empire. In a series of papers he presents the results of his experiences in an attractive form, designed, as he says, for the general, rather than the professional, reader.

The first chapter is a graphic account of anti-plague measures in India—as carried out by Mr. Fremantle himself in 1903-04 in the Lahore district of the Punjab. The methods employed were inoculation and evacuation. He considers that cats are useless for the destruction of rats in fighting plague, as they contract plague themselves; but we think that the experience of Lieutenant-Colonel Andrew Buchanan, I.M.S., shows that in several instances they have been of real value. With regard to evacuation of infected villages, if this be relied on as an effective measure or half-measure, the author rightly urges that it should be carried out with vigour; and that it is a mistake for it to be dependent upon local funds. If anything is to be supported by the general exchequer, surely it is the taking of measures for stamping out or preventing so terrible an epidemic. It cannot be said that anti-plague operations in India have increased in vigour during the last few years, and many will agree with Mr. Fremantle that more active measures are needed.

The beneficent effects of scientific research when practically applied are exemplified in chapters describing the work of the Pasteur Institute at Kasauli, owing to which hydrophobia in India has lost its terrors; of the institute at Parel, near Bombay, where cholera and plague prophylactics are prepared; and of the similar institute at Kuála Lumpúr, in the Federated Malay States, where the work of Hamilton Wright, Daniels, Fraser, and Stanton in regard to beri-beri is briefly referred to. Proceeding further east, Mr. Fremantle visited the Pasteur Institute at Saigon, in Cochin China, the municipal laboratory at Shanghai, and the Japanese Government Institute at Tokyo. At the last-named the work of Kitasato and Shiga was studied. The author cannot forbear a comparison between the progress achieved by direct government action in disease prevention in Japan during the last 35 years (due to a wise and liberal expenditure of public money) and the position of affairs in wealthy Britain.

The next subject dealt with is town-planning. An instance of development with a view to the future is adduced from Kuála Lumpúr, where the president of the sanitary board had, 25 years earlier, when sanitary engineer, laid out streets of 120 feet broad, thus showing considerable foresight and perseverance in the face of very natural opposition. Other instances adduced from the author's experience are Krupp's laying-out of Essen in Rhenish Prussia; Winnipeg, the great junction between Eastern and Western Canada, expected to become the largest city in the Dominion; and several of the greater American cities. The formation of garden cities and industrial villages is advocated rather than of residential suburbs, the idea being to check the inordinate growth of huge towns, and to promote the "colonisation" of the country.

In the chapter on the Aftermath of the Russo-Japanese War Mr. Fremantle gives an appreciation of the aims and international rank of Japan. He then advocates a Five-Power League of France, Russia, the United States, Japan, and Great Britain, in the interests of peace and progress; and he draws attention to the extraordinary development of China, and her inevitable expansion in the near future. In his concluding chapter, taking his text from Ross's dictum that it is "best to approach the prevention of disease, not so much from its humanitarian as from the economic point of view," the author states that it has been the aim of his book "to prove that health is a matter of business efficiency in imperial welfare." The establishment of an intelligence department and the issue of weekly bulletins, somewhat on the lines of those of the United States Marine Hospital Service, are proposed; also the formation of a permanent Advisory Council in London, to consist of experienced medical officers of health, one from each of the Dominion governments, together with "medical officers representing the several departments in Whitehall," and an equal number of lay administrators, permanently responsible for the consideration of health matters in their respective governments.

We congratulate Mr. Fremantle, and commend this book to all interested in the progress of the world, and more particularly of the Anglo-Saxon race. The story is extremely interesting. Numerous photographic reproductions add to its attractiveness. The only fault we have to find is that there is no index.

Differential Diagnosis Presented through an Analysis of 383 Cases. By RICHARD C. CABOT, M.D., Assistant Professor of Clinical Medicine, Harvard University Medical School, Boston. Profusely illustrated. London and Philadelphia: W. B. Saunders Company. 1911. Pp. 753. Price 24*s.* net.

ACCURATE diagnosis of medical cases upon rational and scientific lines is perhaps one of the most difficult subjects that the student has to master. It demands correct observation, a knowledge of symptoms, physical signs, and clinical methods, and considerable practice in marshalling in their due perspective the facts collected. The books on differential diagnosis are many and varied in scope and mode of treatment, since the subject seems to be a popular one for teachers of medicine to write upon. Many of these books consist of detailed descriptions of clinical methods and of their indications, while others are simply text-books of practical medicine. An original and suggestive treatment of the subject is therefore welcome.

Dr. Cabot, in his interesting book, gives instructive illustrations of the methods of diagnosis as they are used in actual practice. In his introductory chapter he says that his book is an attempt to study medicine from the point of view of the presenting symptom—that is to say, of the sign or symptom which the patient presents most forcibly to the examining physician. He goes on to explain: "We begin with the chief complaint and work inward and backward to the causes, the organic lesions, the evolution, probable outcome, and rational treatment of the case. Cases do not often come to us systematically arranged like the account of typhoid in a text-book of practice of medicine. They are generally presented to us from an angle, and with one symptom, often a misleading one, in the foreground." Dr. Cabot has taken 12 symptoms—viz., pain, fever, chills, coma, convulsions, weakness, cough, vomiting, hæmaturia, dyspnœa, jaundice, and nervousness—as the basis of his study of differential diagnosis. He admits there are many others which might have been discussed if space had permitted. The application of the methods of differential diagnosis is illustrated practically by a

study of 383 cases selected from his hospital and private practice, all of them being cases in which the diagnosis was not obvious and required careful working out. Each case is described in sufficient detail to enable the clinical picture to be realised clearly. The diagnosis is then discussed, and possible errors are referred to. The means used to confirm the diagnosis are described, and post-mortem appearances are referred to in some of the fatal cases.

An interesting and original feature of the book is the attempt to express in diagrammatic form the relative frequency of the common causes of each symptom discussed. The basis upon which these diagrams are constructed is an enumeration of the total number of cases of every disease treated at the Massachusetts General Hospital during the last six years. By this means about 180,000 cases were classified according to diagnosis, and the relative frequency of each disease in this material was thus roughly computed. In order to obtain the relative frequency of the symptoms studied in his book Dr. Cabot referred to the statistical articles available in the literature, and also investigated the frequency of the occurrence of the particular symptom in 250 cases of the disease under consideration. In addition to these diagrams a table is appended to most of the chapters summarising the chief features of the principal diseases of which the particular symptom under consideration is the prominent characteristic.

The distinctive feature of this book, which renders it especially noteworthy, is the discussion or commentary upon each case described. This is invariably clear, logical, and characterised by sound common sense. Mistakes are frankly acknowledged, and the lessons to be derived from them are pointedly emphasised. If we have any criticism to offer it is simply to regret that Dr. Cabot has not been able to deal in similar fashion with the other symptoms which he enumerates in his introduction. His book should be very useful to the senior student and to the practitioner in the elucidation of obscure and difficult cases.

Text book of Operative Surgery. By Dr. THEODOR KOCHER, Professor of Surgery and Director of the Surgical Clinic in the University of Bern. Third English edition. Authorised translation from the fifth German edition by HAROLD J. STILES, M.B. Edin., F.R.C.S. Edin., Surgeon to the Chalmers Hospital, Edinburgh; and C. BALFOUR PAUL, M.B. Edin., F.R.C.S. Edin., Assistant Surgeon, Royal Edinburgh Hospital for Sick Children. With 415 illustrations. London: Adam and Charles Black. 1911. Pp. 723. Price 30*s.* net.

THE world-wide recognition of the value of Professor Kocher's text-book on Operative Surgery rendered it essential that it should appear in an English version, and Mr. Stiles in 1895 performed a good work in translating the book into English. Now the third edition of the English version has appeared and it is based on the fifth German edition, so that the English reader has in his hands the latest ideas of the author. The characteristic of Professor Kocher's surgery has always been that it represents the personal opinion and the personal practice of the author, and that it does not attempt to describe all the methods and operations which have been, or now are, employed. This restriction has tended to keep the book of a reasonable size, though even now it has more than 700 pages. The style of the book is pleasing, and the author, in order to avoid the charge of egotism, has not employed the first person singular, which practice has been followed in the translation.

The book is divided into five parts. In the first the preparation of the patient, the disinfection of the hands of the surgeon and his assistants, the methods of sterilisation, the treatment of wounds, and the methods of anæsthesia are fully dealt with. In the second section the surgery of the heart and arteries is considered, and it may be mentioned that no less than 106 operations on the arteries are here described. The third section deals with the surgery of the nervous system. Section IV. is concerned with the surgery of the arm and leg, and Section V. with that of the head and trunk. The illustrations are exceedingly good. They show clearly what they are meant to portray, and colour is used where necessary. As the book is limited to the practice of one surgeon there are necessarily many points on which a discussion might be based. We prefer, however, to welcome whole-heartedly this account of the methods employed by a famous surgeon. To the two translators, Mr. Stiles and Mr. Paul, the thanks of English surgeons are due.

Die Röntgenstrahlen in der Gynäkologie. (*The Roentgen Rays in Gynæcology.*) By Dr. MANFRED FRAENKEL, Charlottenburg. With 14 tables and 46 illustrations in the text. Berlin: Richard Schoetz. 1911. Pp. 256. Price, paper, 7 50 marks; bound, 8.50 marks.

THE use of the X rays in gynæcology is rapidly becoming of considerable importance, and it appears that the time is not far distant when their employment will become more general in this branch of medicine than it is at the present day, and when the question of their routine employment in, for instance, the treatment of fibroid tumours will become a question for gynæcologists to come to some definite decision upon.

In this book Dr. Fraenkel has given a very full account of all the problems connected with this subject and has brought forward a mass of information of considerable value. After a preliminary chapter dealing with some experiments on animals the author gives an account of the results he has obtained in the treatment of a number of gynæcological affections. Out of 23 cases of myoma of the uterus some 75 per cent. showed a definite result, in some cases a marked diminution in the size of the tumour, and in all of these there was also a marked improvement in the duration and amount of the bleeding at the menstrual periods. This improvement was further associated with a marked amelioration of the general health. In 25 per cent. of the cases no result was obtained, and the patients did not react to the treatment. Dr Fraenkel's experience does not corroborate the view held by some, that the use of the rays increases the bleeding in some cases, and he does not exclude as unsuitable submucous fibroids. Further, he holds that the treatment should be applied early, before the tumours have attained any size, so that complications and the need of any operation may be prevented; if this is done, he maintains that the growth of most of these tumours can be arrested and the necessity for any operative interference in the future obviated. The effect on the growth of the myomata and the hæmorrhage from the uterus is no doubt to be explained by the action of the rays on the ovaries, and in this view the author is in agreement with practically all writers on this subject.

In succeeding chapters the effect of the rays on the ovaries is very fully considered, and a number of illustrations are given of both the macroscopic and microscopic appearances of ovaries which have been subjected to this treatment. The author recommends this mode of treatment also in cases of osteomalacia, dysmenorrhœa, and endometritis, while a chapter is devoted to an account of the effect it produces in cases of cancer. Dr. Fraenkel rightly prohibits its use in any but cases quite unfit for operative surgery, and he strongly condemns the practice of attempting to cure cases of malignant disease with the X rays instead of handing them over to the surgeon for immediate operative treatment. The necessity for accurate dosage and technique in this mode of treatment is very great, and this question is fully

discussed, with an account of numerous experiments carried out on animals for the purpose of obtaining accurate data as a guide in its clinical application.

The facts that the X rays produce a very definite effect upon both the maturation and the development of the ova in the ovary, and that they may lead to degeneration of the follicles, corpora lutea, and interstitial cells, lead the author to suggest that they might play some part in the determination of sex. By the use of the X rays it would be possible so to diminish the power of development of the ovum that the female pronucleus would always be the weaker and the male pronucleus would have the predominance, and if we accept the theory that the stronger cell produces its opposite as regards sex we might have the power, according to Dr. Fraenkel, of influencing the sex of the child. The question is much too wide a one to be discussed here, but the most recent views on the determination of sex would seem to show that the characters of both sexes are present in an ovum or spermatozoon, and so it would have to be assumed that any effect the X rays had on the ovary would be exerted on the one character and not on the other. It is a little difficult to believe in any such selective action.

There are many other points of interest in this work, such as the influence of the X rays in producing abortion and in causing sterility, and a consideration of the production of the latter condition by their means from both the medico-legal and the social aspects. The author also discusses their effect in the treatment of various nervous conditions of sexual origin.

Anyone interested in this subject should certainly refer to this work, which gives a very good account of the present position of this branch of therapeutics.

Hygiene and Public Health. By L. C. PARKES and H. R. KENWOOD. Fourth edition. With two plates and 86 illustrations. London: H. K. Lewis. 1911. Pp. 691. Price 12*s.* 6*d.* net.

THIS well-known text-book has now appeared in its fourth edition under the joint authorship of Dr. Louis Parkes and Dr. H. R. Kenwood, and has been revised and added to since the third edition was issued in 1907. In its new form it succeeds as well as its predecessors, both in presenting within moderate compass a review of the essential matters with which the present-day student for public health examinations should be acquainted, and in forming a useful handbook for reference by those who are actively engaged in public health work. At a time when medical officers of health are so often pressed to give all their energies and attention to problems of personal hygiene and administrative measures dependent on control over the individual, it is sometimes necessary to insist upon the importance of that aspect of public medicine which relates to the conditions of human environment that affect the community as a whole. It is essential to the student and to the practitioner of public health that he should be accurately informed on such matters as the requirements necessary for healthy housing, efficient sewerage and sewage disposal, and the means of securing pure air, water, and food. For this purpose the information imparted by text-books must be based on the broad principles aimed at, and must press into service physics, chemistry, mathematics, and any other branch of scientific inquiry that bears on the subject at issue. From such point of view this volume can in the main be cordially recommended. The chapters on water-supply, air and ventilation, and disinfection can be especially commended, and there is a capital statistical section. The summary of English sanitary law and administration is also well arranged and comprehensive, though it might with advantage have included a better account of the numerous statutory and other duties of a county medical officer of health. Perhaps the least satisfactory portion of the book is that which deals with food adulteration. This might very well be revised on the next opportunity, with special reference both to the inquiries of recent Government Commissions on food questions, and to the valuable series of special food reports which the Local Government Board has issued during the last few years. The table of common adulterations and adopted "standards" in particular needs to be brought up to date. On the other hand, there is an excellent chapter on school hygiene, containing much new matter concisely and practically arranged, which forms a valuable guide to the work required of school medical officers and the objects which they should seek to attain. The new edition deserves to be received with favour equal to that with which its forerunners met.

Nouveau Traité de Chirurgie. (*New Treatise on Surgery.*) Publié sous la direction de A. LE DENTU et PIERRE DELBET. *Affections Chirurgicales des Artères.* (*Surgical Affections of the Arteries.*) Par PIERRE DELBET et PIERRE MOCQUOT. Paris: J. B. Baillière et Fils. 1911. Pp. 348. Price, paper, 8 francs; boards, 9.50 francs.

THE treatise on surgery of which this is one section promises to be most important and valuable. The surgery of the arteries has of late increased greatly in importance since it has become recognised that they are less resistant to treatment than used to be thought. Formerly the application of a ligature to an artery was the utmost that a surgeon dared to do, but now it is known that it is possible to suture arteries and to perform a satisfactory anastomosis without a necessary liability to subsequent thrombosis or to the formation of an aneurysm. The risk of gangrene of the limb, when a large artery such as the femoral or the popliteal is wounded and the vessel is tied, justified the attempts made to suture the wounded artery, and the success which has in several cases followed this treatment shows that suture should always be attempted if it is any way possible. The method of treating aneurysm originally brought forward by Matas is fully described and discussed, and the great difficulties with which it is accompanied are set forth. The lesions of the several arteries are described in turn, and references to the literature of the subject are freely given. This volume is a very definite addition to an important branch of surgery and deserves careful study.

Vorlesungen über Harnkrankheiten für Aerzte und Studirende. (*Lectures on Urinary Diseases for Practitioners and Students.*) Von Dr. C. POSNER, a.o. Professor an der Kgl. Friedrich Wilhelms-Universität zu Berlin. Berlin: August Hirschwald. 1911. Pp. 355. Price 9 marks.

THESE lectures are intended rather for the general practitioner than for the specialist, for, as the author points out, the result of any disease of the urinary organs depends in great measure on the knowledge of the medical man who first sees the case, exactly as the result of a wound depends largely on the first dressing. He urges that those in general practice may usefully study special departments of surgery, though they will not have the opportunity of obtaining the operative skill of the specialist. The book is, we are told, based on the author's own experience, and it is clearly the product of a mind well versed in this branch of surgery, and capable of expressing clearly and simply the knowledge it possesses. Although the book has no illustrations, their absence is little noticeable, for the text is so clearly descriptive that the reader hardly feels the need for figures. The entire surgery of the urinary system is described, and the book is divided into a general part and a special part. In the former part the author deals with the general questions of etiology, diagnosis, and treatment, and with the methods of examination, including cystoscopy. In the

special part the inflammations of the various portions of the urinary apparatus are dealt with; then come tuberculosis, calculus, new growths, and nervous disturbances of the organs. The general practitioner by reading this book will get a better idea of the present state of the surgery of the urinary system than by studying the more elaborate and systematic treatises.

Dental Materia Medica, Pharmacology, and Therapeutics. By CHARLES W. GLASSINGTON. Second edition. London: J. and A. Churchill. 1911. Pp. 287. Price 6*s*.

THE author of this work deals with his subject in a clear and concise manner, and has succeeded in producing a most useful book for the dental practitioner. Special sections are devoted to local anæsthesia, the mummification of the dental pulp, and the application of bacterio-therapeutics to dentistry. The last section is written by Dr. D. W. Carmalt-Jones, who expresses the opinion that the streptococcus brevis is the principal initial cause of pyorrhœa. This organism in normal mouths is a harmless parasite, but he considers that it may become pathogenic in the same way as the bacillus coli communis does. Dr. Carmalt-Jones expresses a favourable opinion of vaccine treatment for periodontal disease.

We think that the value of the book for teaching purposes would possibly be enhanced if such expressions as "sponginess of the gums," and "harden the gums," were replaced by more appropriate pathological expressions. There are a few omissions; for example, we do not notice any reference to that useful drug calcium lactate. The author testifies to the therapeutical value of formamint, but clinical experience suggests that the use of this drug in the mouth may be attended with disastrous consequences to the teeth.

Die Morphologie der Missbildungen des Menschen und der Tiere. Herausgegeben von Dr. ERNST SCHWALBE. III. Teil. *Die Einzelmissbildungen.* VI. Lieferung. *Entwicklungsstörungen des Postfötalen Lebens.* Von Professor Dr. A. DIETRICH. Jena: Gustav Fischer. 1911. Pp. 50. Price 1.60 marks.

THIS is the sixth section of Part III. of a large work on the Morphology of Malformations, of which Part I. was published in 1906, Part II. in 1907, and the five previous sections of Part III. at various intervals from 1907 onwards. This short section deals with Disturbances of Development in Post-Fœtal Life, and treats first of infantilism (including Anton's classification) in its various forms; some forms of disturbance of development of the whole body, including dwarfs, cretins, and acromegalics, being associated with the state of certain ductless glands. Variations in individual organs are considered—e.g., malformations of the skull, including artificial deformities and deformities due to growth from too early closing of the sutures, microcephaly, deformities or malformations of the facial part of the skull, particularly of the jaws, and hyperostosis. Then follow deformities of the upper aperture of the thorax, deformities of the sternum, spinal column, and pelvis, hyperplasia of the vascular system, including abnormal narrowness of the aorta, and lastly, malformation of the genital apparatus due to various causes. The little brochure is an appendix to subjects dealt with in the parts of the work already published. It is an interesting and suggestive summary of a not too well-known department of morphology.

LIBRARY TABLE.

Reports from the Laboratory of the Royal College of Physicians of Edinburgh. Vols. X. and XI. Edited by Sir JOHN BATTY TUKE, M.D. Edin., and JAMES RITCHIE, M.D. Edin. Edinburgh: Oliver and Boyd. 1911.—Volume X. of this series contains the papers of workers in the laboratory of the Royal College of Physicians of Edinburgh published up to April, 1907. A tribute is paid to Dr. Noel Paton for the debt which the laboratory owes to him during his 16 years' tenure of office as superintendent. Volume XI. contains the contributions of workers up to the end of 1910. The College acknowledges the continued assistance of the Carnegie Trust. This volume, from the number of communications on neurological subjects, shows the advantages offered by the action of the laboratory committee in 1908 in setting apart a special room for the investigation of neurological problems. The papers have all been previously published in various scientific journals, but many will be glad thus to have them collected into book form.

Enteric Fever in the Tropics. By B. N. GHOSH, L.M.S. Cal. Univ., Lecturer on Materia Medica and Therapeutics, Calcutta Medical School and College of Physicians and Surgeons of Bengal. Calcutta: Hilton and Co. 1911. Pp. 40. Price 12 annas, or 1*s*.—This is a reprint of the author's papers published in various Indian and American medical journals. It contains some useful material of text-book type. The author speaks highly from personal experience of hydrochloric acid and oil of cinnamon as internal remedies in typhoid fever.

The Irish Motor Directory and Motor Annual, 1911–12. A Reference Handbook for Motorists. Edited by HENRY G. TEMPEST. Dublin and Dundalk: W. Tempest. Price 2*s*. 6*d*., post free 2*s*. 9*d*.—This book may prove a useful volume for Irish motorists, for it contains extracts from the laws governing motors, lists of hotels, repairers, and so forth. It contains, however, two features open to objection. Firstly, the stories and anecdotes, which are very numerous, are useless after they are once read, and make the book bulky instead of handy as a work of reference. Secondly, the publication of the list of car owners with their addresses seems a mistake, for it will enable anyone to find the name and address of the owner of any car and possibly to annoy him with some trivial complaint. In England this information can only be obtained by referring the number of the car to the police, which of itself is in some sort a protection for the much-maligned motorist against mere vexatious complaints.

JOURNALS AND MAGAZINES.

Journal of Pathology and Bacteriology. (Official Organ of the Pathological Society of Great Britain and Ireland.) Vol. XVI., No. 1. Published from the Department of Pathology, University of Cambridge. Price 7*s*. 6*d*. Yearly subscription £1 1*s*.—Dr. T. McCririck of London, describing the streptococco-opsonic index in scarlet fever, erysipelas, and puerperal fever, notes that in scarlet fever the opsonic index to streptococcus pyogenes is low (about 0·7) during the first week of the disease, rising to normal or above normal as the temperature falls and the symptoms subside. During the second week the index on the average is 1·1, during the third week 1·2. At the onset of renal complications the index falls, and it is markedly below normal (0·5–0·7) in fatal cases. In erysipelas and in streptococcal puerperal fever the index varies in the same way as in scarlet fever. Further, Dr. J. M. Anderson of Glasgow records that the opsonic index towards streptococci in scarlet fever is low (about 0·7) at the beginning of the attack, gradually rising as symptoms abate and reaching normal about the third week of illness. In fatal cases the index is always low, and in most cases a fall accompanies the appearance of albumin in the urine. In cases treated with serum the index rises to, or above, the normal level more rapidly. Dr. C. J. Lewis of Birmingham, in a paper on the Micro organisms present in Suppuration of

the Accessory Sinuses of the Nose, gives a profound study of the organisms found in 145 cases of suppuration in the accessory nasal sinuses. The numerous kinds found are described under the heads—(1) staphylococci, (2) streptococci, (3) pneumococcus, (4) M. catarrhalis and allies, (5) B. coli and Similar organisms, (6) B. diphtheriæ and diphtheroid organisms, (7) putrefactive group, proteus, &c., (8) B. mesentericus, (9) dental organisms, (10) anaerobes, and (11) spirilla, streptothrices, &c. Professor A. R. Ferguson of Cairo describes bilharziasis and malignant disease of the bladder as they occur in Egypt. He finds that bilharzia infection of the male bladder is found in 76 per cent. of the post-mortem examinations made by him in Egypt. Malignant disease of the bladder is also exceptionally common, the author having examined 40 cases during six years. All these were associated with bilharziasis, and were doubtless due to the chronic irritation set up in this condition. Of the 40 cases, only one was in a female; 34 were cases of epithelioma and 6 of sarcoma. Secondary growths in the heart muscle were present in five of these cases. Bilharziasis of the rectum is very common, but does not appear to lead to malignant disease. Dr. W. Henwood Harvey of Cambridge writes on auto-intoxication and experimental nephritis in rabbits. By repeated administration to rabbits of para-hydroxyphenylethylamine, either by the mouth or by subcutaneous injection over long periods, the author produced definite renal disease in 20 out of 33 animals. The changes are believed to begin with sclerosis of the renal arterioles, which is followed by definite degeneration of the glomeruli and tubules, leading to an increase of connective tissue. The whole kidney is a good deal enlarged, and the condition produced resembles some forms of chronic nephritis in man. Dr. W. K. Macdonald of Edinburgh, in a paper on Fat Removal in Peripheral Nerve Degenerated after Section, states that the fat which arises from the medullary sheath of a peripheral nerve after section is taken up by cells and carried away along the perivascular lymphatics. These cells resemble the compound granular corpuscles which carry away degenerated remains of fibres in the spinal cord. Dr. F. B. Gurd of New Orleans, in a paper on the Cytology of the Leprous Lesion, points out that the local lesion of leprosy begins with an accumulation of lymphoid and plasma cells; mast cells and eosinophile leucocytes are generally also present, and in some cases in which the leprosy bacillus is alone present neutrophile leucocytes are found in large numbers. Proliferation of endothelial cells then follows. Giant cells of the Langhans type, usually present, commonly show characteristic rounded vacuoles. Practically all the bacilli are inside tissue cells, especially in the endothelial and giant cells, also in lymphoid, plasma, and connective-tissue cells. The spherical masses of bacilli found in scrapings from leprous lesions are due to the accumulation of bacilli in the vacuoles, from which they are set free when the cell is ruptured. Dr. C. Price-Jones of London describes the Changes in the Blood and Bone Marrow produced by Hæmorrhage and Blood Destruction, and shows that the subcutaneous injection of phenylhydrazin produces in rabbits an anæmia characterised by a marked rise in the colour index and an increase in the diameter of the red cells. After bleedings of equal severity the colour index is also raised, though not to the same degree, and the increase in the size of red cells is only slight. These experiments, therefore, do not support the view that the raised colour index, which is characteristic of pernicious anæmia in man, is due to the fact that the stromata of the destroyed red cells remain in the body and form a stimulus to marrow activity. A careful study of the marrow indicates that phenylhydrazin has a direct tonic action on the hæmopoietic system as well as a destructive action on red corpuscles. This number also contains the Proceedings of the Pathological Society of Great Britain and Ireland at the meeting held at Oxford, July 7th–9th, 1911.

Paludism, No. 3, July, 1911.—This number of *Paludism*, the last to reach our hands, is full of valuable and interesting matter. The journal has increased in size, the present number comprising some 130 printed pages, with five full-page illustrations and a map. Major S. R. Christophers, I.M.S., who is in charge of the Central Malaria Bureau, Kasauli, has now joined Major S. P. James, I.M.S., as joint editor. The first item is an appreciative obituary notice of the late Sanitary Commissioner with the Government of India, Lieutenant-Colonel J. T. W. Leslie, C.I.E., I.M.S., whose untimely death, on his way home on sick leave from India, the Indian Medical Service still continues to mourn. An editorial record, dealing with the newly established Indian Research Fund, we have already commented upon in our columns of Oct. 7th. Major James, the joint editor, contributes a note on some of the measures that have been taken to make quinine available to the poor in India, and his colleague, Major Christophers, follows with a short paper on the Selection of Unit Areas for Recording Data Concerning Malaria in India (with map). He also gives other articles on: (1) Aids to the Identification of Culicides other than Anopheles, with Special Reference to Indian Species, with plate; (2) An Investigation into the Prevalence of Kala-azar in Part of Upper Assam; and (3) Observations (with charts) on Graphs of the Spleen-rate and Average Spleens. Major W. H. Kenrick, I.M.S., Special Malaria Officer, Central Provinces, writes on the effect of endemic malaria upon the birth- and death-rate. Lieutenant-Colonel J. R. Adie, I.M.S., Special Malaria Officer, Punjab, contributes two papers, the first being some notes on infection among troops and native children at Delhi, and the second on a handy method of collecting adult anopheles (with plate). Major E. L. Perry, on special malaria duty, also contributes two articles, one being observations regarding malaria in the Jeypore hill tract and adjoining coast, the other being on the relation of the endemic index to the splenic index in epidemic areas in the Punjab. The Central Malaria Bureau describes (with plate) a system of mounting, examining, and preserving mosquitoes. A number of notes on mosquitoes (with plates) and a digest of recent literature connected with malaria, the latter extending over 26 pages, complete this most informing and helpful third number of *Paludism*. We understand that this publication will not in future be issued quarterly as hitherto, but at irregular intervals as occasion arises and material accumulates.

Jahreskurse für Ärztliche Fortbildung. (*Annual Post-Graduate Medical Course.*) Munich: Lehmann. Price 16 marks per annum.—The July number is devoted to gynæcology and obstetrics. Professor Winter contributes an article on placenta prævia, the teaching of which is very much on the lines of English text-books. Version and the de Ribes bag are regarded as the methods of widest application; *accouchement forcé* is condemned, and a limited field of usefulness is conceded to the various kinds of Cæsarean section. Dr. E. Sachs gives a most interesting article on the bacteriology of the parturient state. The methods of recognition of the presence of various germs in the genital canal and the relative importance of each, the great importance of the hæmolytic streptococcus, the possibility of prevention of infection, the avoidance of all operative measures in the presence of this organism, are some of his most important points. The serum treatment of puerperal infection appears to have given little prospects of success. Professor Martin deals with genital prolapse. He emphasises the very great importance of the muscles and fascia of the pelvic floor as the main support of the pelvic viscera, and

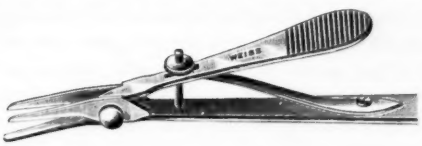
insists that all kinds of genital prolapse are to be regarded and treated in the same way as other abdominal hernias—i.e., by making good the defect in the muscular and fascial layers of the hernial orifice, which, in the case of genital prolapse, are the levatores ani and the visceral layers of the pelvic fascia. The use of pessaries is condemned, and it is held that the more complicated operations which aim at fixing the uterus from above are seldom required. The same author gives a short account of the use of the X rays in gynæcology, especially in the treatment of menorrhagia and myomata. He concludes with a very interesting discussion of the relative advantages of attacking uterine disease respectively by the abdominal and vaginal routes. Recent statistics by Wertheim and Schauta in relation to the radical operation for cancer of the uterus—in which the former uses the abdominal, the latter the vaginal route—are compared, with the astonishing result that the vaginal method gives as good remote results as the new or abdominal route, with fewer deaths from the operation.

The August number is occupied with the wide range of subjects included under the head of therapeutics. It is really an epitome of the more modern methods of treatment, and is, therefore, filled with matters of practical interest. Professor Kionka deals with the mode of action of the various purgative drugs in the light of recent observations by means of the X rays after feeding with bismuth. The influence of the drugs on the various movements of the different parts of the intestine and their effect in diminishing absorption or increasing secretion are described and discussed. The same author gives a short account of the uses of the carbonic acid baths, and analyses the various chemical and physical factors which bring about their action. Professor Strasser deals with the subject of hydrotherapy in special relation to the treatment of phthisis. He explains the hardening effect of cold bathing upon the system, which makes it of such great value in prophylaxis. The different kinds of baths and douches, together with the methods of their application, are given in some detail. A very important section of this article deals with the varying conditions of the patients which require special modifications of the baths. Dr. Determann contributes a short article on climatology, which reviews in a very concise manner the different factors that go to make a "climate," and the influence that each factor has upon different diseases, and he adds a most useful list of the special climates suitable for special diseases. Professor Strauss discusses the dietetic treatment of arterio-sclerosis with special regard to the questions of meat, milk, alcohol, and chlorides. A few pages of a somewhat condensed *résumé* of progress in nursing and nursing appliances are contributed by Professor Salzwedel. Professor Frankenhauser gives a highly technical article on electro-therapy, in which he explains the action of the different forms of currents on the body tissues. Dr. Holzknecht describes the recent advances in the diagnosis of diseases of the stomach by means of the X rays. He considers that this new method will render unnecessary the use of exploratory operations for diagnostic purposes. By a series of typical cases he shows how certainly the diagnosis was established in various patients who afterwards were submitted to operation. Dr. L. Freund deals with aspects of light therapy, some of the most interesting of these being the subjects of sunburn and of the sterilisation of drinking-water by exposure to the ultra-violet rays. Dr. Gudzent explains the physical properties of radium emanations, and discusses their influence in increasing ferment action, stimulating purin metabolism and leucocytosis. He concludes by showing the practical value of these actions in the treatment of various diseases—e.g., rheumatism, gout, and neuralgia. The whole of this number is full of facts of practical value.

New Inventions.

IMPROVED TWIN SCISSORS FOR SCLERECTOMY.

THE twin scissors devised for the purpose of making the essential part of Herbert's small-flap sclerectomy operation for chronic glaucoma, and described by me in THE LANCET of March 4th, 1911, were found capable of useful work, but they had certain defects in their working. The lateral hinge of the first pattern necessarily allowed sufficient play for the male blade to engage one or other of the female blades unequally, so that the cutting action was checked. The male or female blades were not always engaged, or, to use a term applied to motor-gears, not always in mesh, so that the cutting was jerky. Also there was no means of limiting the opening of the scissors. In the improved pattern here figured it is believed that these defects are completely



remedied. At the suggestion of Mr. W. G. Laws of Nottingham the lateral hinge has been changed to a central hinge which gives perfect stability. The male blade is now always in gear betwixt the female blades, and the female blades have been given a lateral spring, so that in cutting the sharp edges cling to, and shear along, the cutting edge of the male blade, just as the slight twist of the fingers causes the blades of an ordinary scissors to grip and shear along each other. A stop screw has been attached, so that the play of the jaws can be adjusted to a nicety and undue recoil of the spring checked. In the illustration the handle is cut off. The new twin scissors have been used already in several operations and the improvement is manifest. The new pattern is made by Messrs. John Weiss of Oxford-street, London, W.

N. BISHOP HARMAN, M.B. Cantab., F.R.C.S. Eng.

ALL-METAL SPINAL ANALGESIA SYRINGE.

THE All-Metal syringe for local analgesia which was devised by me a few years ago, and manufactured by Messrs. Allen and Hanburys, Limited, has been recently adapted for spinal analgesia, as depicted in the accompanying illustration. This syringe was originally based on the lines of Mr. A. E. Barker's well-known syringe, the great feature being the tightly fitting piston and its practical indestructibility. A

SCALE 1/3

large number of these instruments has been ordered by the War Office. The spinal needles (fitted with cannulæ which extend right to the tip) are carried in clips in the lid of the box. A hollow needle is also supplied through which the solution can be drawn into the barrel of the syringe and by means of which air can be expelled. A triangular-edged knife for puncturing the skin is included in the outfit. The needles and knife have been copied from Mr. Canny Ryall's spinal syringe.

Cosham, Hants. F. J. W. PORTER, Major, R.A.M.C.

THE LANCET.

LONDON: SATURDAY, OCTOBER 28, 1911.

The Lunacy Commission.

FOR several years past it has been generally recognised that the enormous increase in the work devolving on the Commissioners in Lunacy has made it imperative that their number should be augmented by the appointment of additional medical members. Since the passing of Lord ASHLEY'S Act, which established the Board of Commissioners on its present basis in 1845, the number of persons officially recognised as insane in England and Wales has increased fourfold, and now reaches the formidable figure of 130,000, but the number of medical Commissioners responsible for the supervision of this host of the insane and for the inspection of the establishments in which they are housed is still limited to three. It is no reflection on the distinguished physicians who have held these offices to say that the work imposed upon them under these conditions has been beyond their powers. So intolerable, indeed, has the position become within the last few years that it has been necessary to find an immediate remedy without waiting for that entire recasting of the machinery for the supervision of the mentally defective which we have been promised since the publication of the report of the Royal Commission on the Care and Control of the Feeble-Minded. Legislation has accordingly been initiated, and the Lunacy Bill which was before Parliament this year provides for the appointment of two additional Commissioners. It does not, however, expressly require that they should be medical men, and we understand that in certain quarters efforts are being made to secure that one of them shall be a legal representative, thus giving four lawyers and four medical men as paid members of the Board.

It is hardly conceivable that the authorities in whose hands these appointments rest should entertain so extraordinary and reactionary a proposal, but the very fact that it should have been put forward at all makes it desirable that medical opinion should be expressed very explicitly on the matter. It is not a question of securing positions of patronage for the members of a particular profession; if it were merely that, the general public at all events might be content to take a detached view of the issue, satisfied from past experience that the claims of the legal profession are not likely to be under-stated. The question goes much deeper: it not only concerns the welfare of a very large number of sick persons, but also affects the consideration of a bio-social problem which is of vital importance to the community. The demand for further legal representation on the Lunacy Commission is in effect the reaffirming of the tradition which separates insanity from disease and regards the lunatic somewhat in the light of a wrong-doer to be punished and not as a patient to be treated. The medical profession has consistently striven to combat this bad tradition, and thanks to its strenuous efforts the whole tendency of public opinion and legislative action from the days of PINEL has been in the direction of extending to the insane the privileges which an enlightened humanity accords to the sufferers from more patently physical diseases. And if this change of attitude has immeasurably alleviated the lot of these unfortunate invalids, it has had an indirect influence of even greater ultimate importance in stimulating that scientific study of insanity by which, and by which alone, we may hope to discover, and hence to counteract, the causes of a malady that constitutes at once a heavy burden on the community and a danger to its vitality. The recognition of this truth that insanity is a disease inspires the whole system of asylum treatment which it is the special function of the Commissioners in Lunacy to supervise; the statutory duties imposed on the Commissioners by the Lunacy Acts are chiefly concerned with medical questions; the annual reports in which they render an account to the public of their performance of these duties deal mainly with matters of strictly medical science, with the discussion of problems of etiology, with the investigation of zymotic diseases specially prevalent amongst the inmates of asylums, and with kindred topics.

It is hard to imagine in what manner the discharge of these functions could be promoted by an addition to the already large legal element on the Board, but it is not at all hard to conceive that such a deplorable step must react injuriously on the scientific position of English psychiatry, and might tend to revive in the public mind the unfortunate errors and prejudices which formerly prevailed with reference to the insane. With the addition of two medical Commissioners, the medical representation on the Board will still be quite inadequate, as may be seen by comparison, we will not say with continental countries, but even with Scotland and Ireland. In Scotland, where the insane number some 20,000, there are two senior and two junior medical Commissioners in Lunacy, and in Ireland the supervision of the 25,000 lunatics is entrusted to two medical inspectors. It can hardly be suggested that there is any extravagance in the arrangement by which in this country five medical men are expected to discharge the same functions for 130,000 patients. And in this connexion we may remark that the anomalous position of England with regard to the medical supervision of the insane is of comparatively recent origin; the Metropolitan Commissioners, who, prior to Lord ASHLEY'S Act, exercised the powers vested by that Act in the Commissioners in Lunacy, included five physicians originally, and by subsequent legislation the number was raised to seven; and at a still earlier period, under GEORGE III., no less than five physicians were deemed necessary for the inspection of the insane in the metropolis of that day. Some of our contemporary politicians do lip-service to the ideas and the spirit of modern science: they have now an opportunity of showing whether in their appreciation of the fact that insanity is a disease they are at least as enlightened as were their predecessors of the Georgian era.

The Battle of Monism and Dualism.

THE prominence given in recent years to investigations by the psycho-physical school has led to the belief that just as "sensation" and "memory" can be expressed in terms of logarithms, so in the long run all mental phenomena might be reduced to arithmetical processes; whilst the more advanced advocates, of whom TITCHENER and KÜLPE are prominent exponents, have maintained that there is no necessity for any theory of an "activity-process," such as the conation forces of will and attention, but that mind and brain are practically the same thing, the former being just the necessary result of the action of the latter. But this interpretation does not satisfy those who, from introspection, and after consideration of the objective statements of experience by a large number of individuals, feel that the physical school is not quite convincing, that it does not fill up the gap between metaphysics and physiology, and that there is a realm of spiritual as well as of corporal body which has not so far been found capable of scientific exposition, though it may be accepted as a continuation of the line of evolution which, starting with the potentialities of living protoplasm, has not yet completed its course. The epithets of Atheism and Agnosticism which have been hurled by some over-strenuous religious corporations against the so-called materialist school have been unjust, because the upholders of the latter have declared themselves open to conviction, whilst merely affirming that present knowledge did not authorise belief in what is, so far, incapable of scientific demonstration. However, in those departments of biology which deal with actual facts, and draw up theories afterwards, there has been of late the exhibition of a tolerant attitude towards inquirers who, finding themselves face to face with what they cannot explain, are willing to weigh the feasibility of theoretical considerations which might, if they could be proved to be realities, show the real connexion between the psychical and the physical. There are inquirers, in other words, who, whilst believing in the authority given by the balance and the microscope, are ready to conceive that there are processes which for their demonstration require finer adjustments, perhaps even means of an order different from those which we at present recognise.

Professor J. S. MACDONALD, in his admirable presidential address to the Physiological Section of the British Association at Portsmouth, has recently thrown his considerable weight into the scale on the side of Dualism. He pointed out that there was no scientific evidence to support or to rebut the doctrine that, whilst the brain was possibly affected by influences other than those which reached it from the sense organs and from the different receptive surfaces of the body, it was still possible that it was an instrument traversed freely by an unknown influence which found resonance within it; and it is clear that an instrument, shaped in the embryo by a certain set of conditions, might in course of time respond to the play of some new influence which had taken no immediate part in fashioning it. The essential point for the moment was, Professor MACDONALD allowed, that there was some loophole for the view that mind was not directly associated with life or living matter, but only indirectly with certain dispositions of dynamic state that were sometimes present within certain parts of it. Where there was evidence of mind the view was that it represented a force acting from without upon what was still no more than matter involved in certain chemical and physical states. He put forward this view as an expression of belief rather than of opinion, and not as based on evidence or in any way a statement of demonstrated or demonstrable fact. Professor C. S. SHERRINGTON and Professor WILLIAM STIRLING intimated their acceptance of an address so full of suggestions for further valuable research in the field of physiology—and this acknowledgment of the intimate connexion between physiology and psychology is a proof that the expositors of the most exact scientific methods are willing to admit the possibility of the ultimate inclusion within the realms of experiment and demonstration of what has up to now been treated as a domain merely for dialectics and empiricism.

In a lecture "On the Occult," given at the Medical Graduates' College and Polyclinic in June, 1910, Dr. CLAYE SHAW expressed some ideas which are strikingly in harmony with those of Professor MACDONALD. The lecturer put forward the proposition of an external agency, a world of force which requires for its display the human mechanisms. If there are external forces which are able to affect the human mechanism it is surely not possible to deny that an individual may be moved to speak or to act in a way unknown to himself by some influence of which he is the appropriate medium. If the body and the brain are but instruments for the working of this force, then our actions denote that some changes may be going on in this force for which there is in us no responsibility—we are just puppets, as it were the keyboard of an electric installation. Viewed thus man is a necessary complement of this force, and one object of his creation is merely that of a force terminal, an Æolian harp which discloses the motion of winds which cannot be seen. It may be urged that all this is pure spiritism, that it gives us no more solid base than have the spiritualists and mediums of the "occult" performances of recent and ancient times. This may be conceded; but the great point is that followers of the exact sciences of to-day find themselves now in the position of being able to acknowledge the validity of agencies other than those at present at their command and under their control, and, having taken stand on a new platform, they are ready to investigate the existence of this Soul, Mind, Force, or whatever name be given to it. They are prepared to discover the laws under which it acts, and to devise experiments (possibly of an order very different from the means now employed) with the hope of attaining nearer to final truth. If such an achievement is beyond our present resources we must still go on in the hope that by constant attention to, and familiarity with, the processes observed we may ultimately develop a condition which enables us to see clearly what just now is no more than acceptable speculation. Just as we observe to-day a greater tolerance in the teachers of spiritual truths towards the exponents of scientific facts and theories, so do we welcome the *rapprochement* between the adherents of the psychical and the physical,

as shown by the agreement that the gap between the two may be bridged across, if not even actually filled up and obliterated.

The Medical Profession in India.

ON several occasions recently attention has been drawn in our columns to the dissatisfaction that exists in the Indian Medical Service at the present time; this prevails not only in regard to the pecuniary emoluments offered, but also in a considerable degree to the conditions of employment generally. The high traditions of this service, the record of pioneer work accomplished in many branches of medical science, the long roll of distinguished physicians and surgeons who have worked, often through a life-time, in our great dependency, have combined to place it in the first rank amongst the spheres of occupation open to the young medical man when he is choosing his career. Within the last few years, unfortunately, various circumstances have combined to diminish its attractiveness, as has been evidenced by the falling-off in competition for admission to its ranks; and it is clear that if the ruling authorities desire to have the best class of medical practitioner in their service, as until lately has undoubtedly been the case, they must increase the emoluments and render the service more attractive.

To pass, however, from the individual aspect, or personal point of view, if we regard the matter from an administrative standpoint, it is a fair subject for discussion whether the time has not now arrived for comprehensive reorganisation. As at present constituted, the Indian Medical Service is officially and primarily a military service; all its members enter through the military portal, undergo military training, and possess military rank and titles. One section of these officers remain in military employ for the greater part of their career; the other and larger section form the main body of the profession throughout the country, either as medical practitioners or as health officers. The arrangement had its origin in the conditions of the birth and development of British rule in India; this began as a trading venture, but by circumstances was compelled to advance by force of arms. It is still absolutely necessary to maintain a large armed force in the country, though happily our relations with the various populations and their native rulers are most friendly. It has always been, and still is, considered necessary that the medical service of the army should be capable of immediate expansion in the event of warlike operations being undertaken, that part of the medical establishment that is employed in civil duties being regarded as the reserve from which any required increase in *personnel* might be drawn. The condition of things is not, however, satisfactory. For those medical officers who have chosen military employ and look forward to promotion to administrative rank in natural course it often happens that disappointment is in store, owing to the return to military duty over their heads in the administrative grades of senior officers who have passed most of their time in civil employ. More serious than this is the risk of inefficient medico-military administration when it is placed in the hands of officers, however able they may be, who have been spending their best years in civil practice. It cannot be said that a college professor or the able governor of a jail is necessarily or naturally an efficient army medical administrator in these days of advanced military medical requirements. On the other hand, the medical officers who are employed on military duty find themselves "associated with an archaic system of regimental service, characterised by a total absence of opportunity for acquiring initiative, experience, or responsibility, and for keeping up a reasonable standard of professional knowledge."

These are the words of a well-informed writer in the *Allahabad Pioneer* for July 6th, 1911. In the opinion of this writer another problem, and one of an extremely delicate nature, is the presence of an increasing number of Indians in the service, and he goes so far as to say that the Indian is not a suitable element on the military side of the Indian Medical Service. The same writer considers that the fundamental defects of this service consist in (1) attempting too much by doing both civil and military duties; (2) the present system of recruitment, which is not suited to the military side of its functions, and is paralysed by the top weight of the civil side; and (3) the present regimental system which is inconsistent with either military or professional efficiency. His remedy would be to divorce the civil side absolutely from the military, and to recruit the latter entirely from Europeans. He inclines to the formation of an Imperial Medical Service (in preference to any local *cadre*), as in the case of the Royal Engineers, who have men on the permanent Indian establishment and yet belong to an Imperial service. As for the civil side, which in this event would be the true Indian Medical Service, it should be a purely civil *cadre;* the argument that it is required as a military reserve the writer (who pessimistically signs himself *Mene*) does not think applicable at the present time. Any number of men could be obtained from England in three weeks, if occasion required, as was shown at the time of the South African war. The civil side could recruit freely from Indians. This writer is, however, not in favour of maintaining the present monopoly of the Indian Medical Service in regard to civil surgeoncies. He would gradually reduce these in number, thereby fostering an independent medical profession "presumably European." The reorganised civil medical service should be a true public health service, with activities in preventive as well as in clinical work, forming part of a secretariat on the lines of the Local Government Board. Such are the views of the Allahabad correspondent. We understand, and can readily believe, that, with the greatly increased communication between East and West, the large numbers of Indians who come to Europe for their professional education (a substantial proportion of these being students of medicine), and the increased opportunities for education generally, there has arisen a great desire on the part of the cultivated and intellectual youth of India to enter on a medical career on the same terms of equality with Europeans, as they have long had in the legal profession. They demand equality of opportunity—a fair and open opportunity for practice. No one believes that this can be denied them for ever. But we have to consider the large population of our own countrymen whose lot is cast in that "Land of Regrets"; for them, and especially for

their wives and families, whose interests cannot be ignored, there are the weightiest reasons for the maintenance of a numerous body of British-born medical practitioners, in the civil as well as in the military service, distributed throughout the country. So long as it is good for India to be governed by Britain, so long must precedence be given to every condition which inevitably arises from that fact. As pointed out by another correspondent of the *Pioneer* (July 26th, 1911)—not himself a medical man—the reasons for the necessity of this presence of British medical men "rest on the highest moral foundations, before which reasons the private ambition of any limited class of practitioners must give way." Moreover, for positions of the principal responsibility, needing long experience and matured judgment, and, more than all, that ability to deal with emergencies which is certainly not characteristic of the literary and cultivated, as distinct from the warlike, native of India, we still need, and shall need for long, the services of our own countrymen in the important grades of civil administration. With these reserves we should welcome the gradual development of a medical service of Indians for Indians.

In one line of practice we should like to see more rapid progress—viz., in the development of female medical education. The scope for the work of the woman doctor is enormous; this is a field in which we think Government might move more quickly than they have been doing up to now. There is no question here of comparative fitness for administrative duties and responsibility. Throughout India there are some 150 million women and girls, for a large proportion of whom medical aid under present circumstances is non-existent or inefficient; this is the crying need of the country, and to supply this the medical education of suitable women of native races should be largely developed. For general medical practice the field is already open to the native born Indian, but we are of opinion that careful selection should be exercised in regard to the education of Indian students for the medical profession. It is not all who are fitted for it at present; the conditions of a public service demand more than ability to pass examinations, and apparently such ability among the Indians is even less a testimony of real fitness than in the case of Europeans. Nevertheless, the development of a native medical profession is proceeding, but it must advance gradually for the results to be of permanent value. There remains to be mentioned the case of the British or European medical men practising in India on their own account; they are practically limited to the Presidency towns, one or two other large centres of population, and a few districts where there is a considerable number of unofficial British residents. We are not aware of any widespread desire on their part for any interference with their freedom of contract or conditions of practice.

BANGOR DISTRICT NURSING SOCIETY.—At the annual meeting of this society held in Bangor, co. Down, on Oct. 19th, Lady Hermione Blackwood gave an address, illustrated with limelight views of "district nursing." The slides represented religious nursing orders in early times, Chaucer's Doctor of Physicke, the Knights of St. John, and nurses going their rounds in the west coast of Ireland. The lecture was greatly enjoyed.

Annotations.

"Ne quid nimis."

THE EXPERIMENTAL PRODUCTION OF APPENDICITIS.

WE publish in another column of this week's issue of THE LANCET an interesting paper which was communicated to the Pathological Section of the Royal Society of Medicine on Oct. 17th by Dr. F. J. Poynton and Dr. Alexander Paine. It is well known that these observers have in a series of researches isolated from the lesions of cases of acute rheumatism and some of its complications a diplococcus to which the name of diplococcus rheumaticus has been applied, and by the agency of which they have produced experimentally in rabbits arthritis and cardiac lesions. In the present research they have used a diplococcus isolated from the fluid drawn from the knee-joint of a boy suffering from a first attack of acute rheumatism, and they have invariably employed young rabbits for the intravenous inoculations carried out with it. In a certain number of the rabbits, in addition to the arthritis and the cardiac lesions when these were present, they found evidence of inflammation of the vermiform appendix, the histological features of which seemed to demonstrate that it was the result of an infection from the blood stream. In some of the cases the diplococci were demonstrated in these lesions, while in one case in which reparative processes were in progress they were not found. The characters of the appendicitis varied somewhat in the individual cases; in one a very early inflammation was found, in another a severe degree, while in a third an ulcer was noticed. In one case the middle part of the appendix was ballooned, while in another there was early peritonitis without perforation. It is interesting to note that in some of the rabbits a mucous diarrhœa occurred as a result of the injection of the diplococcus, and in two intussusception was found post mortem. Dr. Poynton and Dr. Paine disclaim any priority in regard to the demonstration of the occurrence of appendicitis as a local result of a general blood infection, and refer to some observations by Adrian published ten years ago. He showed that in rabbits appendicitis could be produced by the intravenous injection of various organisms such as streptococci, staphylococci, pneumococci, typhoid bacilli, and the colon bacillus. Dr. Poynton and Dr. Paine point out that in their cases there was no concretion or foreign body in the appendix, and that the changes commenced deep in the wall of that structure, facts which they regard as opposed to the view of Aschoff that the disease in man starts from within the lumen. They also suggest that the ordinary lesions in human appendicitis could be explained readily by their results in rabbits. Their observations are of considerable interest in regard to the etiology and pathology of this condition, and they deserve careful consideration. If the organism described is regarded as the causal agent of rheumatic fever, it gains additional interest from the support it affords to the view which has often been expressed that there is a relationship between acute rheumatism and appendicitis; but in order not to confuse the issue in regard to the origin of appendicitis from blood infections, Dr. Poynton and Dr. Paine avoid employing the specific name of the diplococcus with which they have worked.

THE SLOW PULSE OF JAUNDICE.

IN 1864 Bouillaud called attention to the association between bradycardia and icterus which he had noted, especially in cases of catarrhal jaundice. In other forms of jaundice, however, the same phenomenon is occasionally

noted. The pulse-rate rarely falls below 40 in such cases, being usually somewhere between 40 and 60 per minute. At the present time, when so much time and energy are being devoted to the study of bradycardia, this association is of particular interest. We know that a slow pulse may be due either to retardation of the whole heart or to "heart-block"; the form of the latter which has been most thoroughly investigated is that in which the stimuli to contraction are arrested either by organic disease or by exalted vagus tone in their passage through the auriculo-ventricular bundle. A bradycardia of toxic origin, such as that met with in jaundiced persons, is of special interest, because it may possibly afford an answer to the question, Can direct poisoning of the auriculo-ventricular bundle without demonstrable gross lesion interfere with the conduction of impulses? The work of Lewis and Oppenheimer on asphyxial heart-block suggests an affirmative answer to this query. The latest work on icteric bradycardia, by Danielopolu of Bucharest, published in the *Wiener Klinische Wochenschrift*, No. 39, 1911, shows that in the two cases investigated by him there was no question of interrupted conductivity. Both patients were suffering from catarrhal jaundice, and in both the rate of the pulse was about 48 per minute, counted with the patient lying down. In both cases injection of atropine sulphate (2 mg.) was followed by a quickening of the pulse-rate up to 100 or more per minute within three-quarters of an hour. The rhythm was also altered by deep inspiration and by swallowing movements and by changes of posture. More definite proof of the implication of auricle as well as ventricle in the slow rhythm was afforded by polygraph tracings, which showed that the slowing was a disturbance belonging to the class of sinus irregularities in which each ventricular systole was preceded at the normal interval by an auricular systole. It is true that these results, so far as the atropine acceleration is concerned, are in contra-indication to those obtained by certain other investigators, whose work Danielopolu quotes; these, however, are seriously discounted, in his opinion, by the fact that the dose of atropine used in the application of the test was too small. There is, therefore, no sound evidence of a myogenic origin for the bradycardia of jaundice.

FINSEN LIGHT AND TRACHOMA.

Two interesting papers on the action of Finsen light on trachoma have recently been published in Finland by V. Grönholm and K. A. Heiberg (Finska Läkaresällskapets Handlingar, vol. liii., 1911). Till a few years ago the technical difficulties which this treatment involved seemed to exclude its application to structures in the neighbourhood of the eye. Lundsgaard, however, demonstrated experimentally that the conjunctivæ tolerate considerable exposure to the ultra-violet rays, and that technical details such as screening the eyeball and compressing the diseased tissues so as to render them suitably anæmic could be effectually carried out. These difficulties being overcome, Finsen treatment promised good results in trachoma, as the ultra-violet rays have a selective action on cellular tissue in which trachomatous areas are rich, while connective tissue is relatively immune to these rays. The treatment was begun in 1907 by Lundsgaard. After 12 exposures lasting 10 to 35 minutes each the conjunctiva became pale and smooth without marked cicatrisation. All the trachomatous areas disappeared, and after an interval of three years there was no relapse. The reports of Grönholm and Heiberg deal with 72 patients and 109 trachomatous eyes. There was no selection of cases. All varieties were treated, except such as presented very slight disease or extensive involvement of the cornea. After exclusion of 11 eyes, which were not systematically treated, the immediate result of the treatment showed recovery in 79 (81 per cent.) and improvement in the remaining 19 (19 per cent.). Unfortunately, it is at first difficult to decide whether a permanent cure has been effected or not, for the structures about the eye are still so hyperæmic two or three weeks after the treatment that trachomatous tissue may be hidden in a conjunctival crypt or in the walls of the lacrymal canals. Months even may pass before such a focus becomes evident, and a probation period of a year is therefore necessary before a permanent cure can be claimed. After a period of 12 to 17 months 64 eyes were examined and reported on. Thirty-six (56 per cent.) were still healthy, 21 (33 per cent.) had relapsed, and 7 (11 per cent.) were still infected. Of the 19 eyes which were relieved but not cured at the conclusion of the treatment, 9 were subsequently examined, when 6 were found to be radically cured. Although the percentage of relapses is high it is, however, considerably lower than with other forms of treatment, including excision. Probably in a certain number of cases the reappearance of trachoma was due not to relapse but to reinfection either from the patient's other eye or from another patient. In either case the disease ran a mild course on its second appearance. It was found to be rather the nature of the disease than the thoroughness of the treatment upon which recovery depended, for the best results were obtained where the disease was early and associated with considerable hypertrophy of the surrounding structures even when only one exposure was given, whereas relapses were frequent in spite of repeated exposures when there was considerable cicatrisation present. The whole of the conjunctiva can be treated by one exposure of 10 minutes, and its efficacy is increased by a preliminary expression of the trachomatous granules. The reaction which follows expression subsides in a week, after which an exposure is given, the resultant reaction lasting a week or two. In an uncomplicated case, therefore, the period of treatment may be less than one month; but when complications such as hyperæsthesia are present 2 to 5 small tentative exposures are required which prolong the treatment considerably. With bilateral disease 4 to 6 weeks' treatment is necessary. Nine cases which had previously been treated in vain by expression and copper sulphate, in some instances for many years, were treated by expression plus light treatment: there was improvement in all, and permanent recovery in 4. The new treatment is not entirely free from dangers. Pannus or corneal ulceration, which existed in 15 cases before treatment, grew worse, and in seven cases small peripheral ulcers appeared on a previously healthy cornea. In three cases corneal opacities were produced which permanently affected the patient's vision. The treatment is therefore primarily indicated in cases which present a healthy cornea; when this is involved or the eye is inflamed small conjunctival areas must be successively treated, and the reaction induced by one exposure must be allowed to pass off before another is given. The writers conclude that in suitable cases treatment of trachoma by Finsen light is superior to every other method.

TABLE UTENSILS AS A MEANS OF SPREADING INFECTION.

IN an interesting note in the *Münchener Medizinische Wochenschrift* of Oct. 17th Professor A. Ritschl of Freiburg draws attention to a possible factor in the spread of infectious conditions of the mouth, nose, and pharynx, which he believes to be insufficiently recognised in most households—viz., the table utensils, such as the forks, spoons, and glasses, which come into contact with the mouth. He points out that these are usually washed altogether, often very perfunctorily, and then dried upon the same cloth, so

that it is not surprising if the infective agent gets distributed by this means. He states that in his own family the utensils used by any member suffering from an infectious condition are separately sterilised in boiling water. One of his children having contracted mumps at school recovered without communicating the disease to any other member of the family. Professor Ritschl insists upon the importance of strict measures in regard to this matter in restaurants, hotels, and pensions, and he is of opinion that if these precautions were adopted it would be less common than at present for people to complain of "catching cold." We believe that precautions in regard to this matter are generally adopted at sanatoriums for the treatment of pulmonary tuberculosis, where this danger is recognised, and at hospitals and public institutions in this country; but Professor Ritschl's note may serve to draw the attention of the public to this question, since there can be little doubt that the ordinary process of washing, unless carried out thoroughly with very hot water, is not calculated to destroy infective organisms.

THE ABSENCE OF ALTMANN'S GRANULES IN THE DIAGNOSIS OF MALIGNANT DISEASE.

IN most of the living and healthy cells of the body there are certain granules which can be demonstrated by special methods of staining; they were first described by Altmann, and are generally known by his name. In the tenth report of the Cancer Research Laboratories of the Middlesex Hospital four important papers occur dealing with the interesting point that Altmann's granules are not to be found in the cells of malignant growths. As Dr. W. S. Lazarus-Barlow remarks in his article in the same report on the progress of Cancer Research during the last ten years, the discovery of the absence of Altmann's granules in carcinoma and sarcoma has afforded the first indubitable evidence that the cancerous cell differs in its metabolism from its ancestors, the healthy cells, and it has also afforded a means of differentiating between certain conditions hitherto difficult or impossible to differentiate by microscopical examination and a matter of doubt clinically. It is now possible to determine whether a given mass of redundant tissue is sarcomatous or inflammatory, and with a further extension of our knowledge in this direction a still wider application may be hoped for. Altmann's granules are present in the cells of nearly all normal tissues, the chief exceptions being unstriped muscle, squamous epithelium, and the pyramidal portion of the kidney. The first paper on this subject in the report is by Dr. Hector A. Colwell and Dr. Henry Beckton, and it deals with the chemical nature of the Altmann's granules in the kidney. The granules are wanting in the pyramidal portion of the kidney, while they are abundant in the cortex, and the contrast of the two portions is very strikingly made manifest when the granules are stained. The evidence derived from many experiments described in this article goes to show that the granules are protein in character. The same observers have contributed a paper on the effect of various reagents on the demonstrability of Altmann's granules, and the conclusion is formed that operation material placed in moderately thin slices in formalin is available for examination for the granules, provided that it be transferred to formol-Müller solution within a day or two. Dr. Beckton and S. Russ have examined the effects of radium emanation on Altmann's granules. It was found that the emanation caused the disappearance of the granules from all the tissues examined. A note by the late Miss Theresa de G. Miller also is well worthy of mention; it details the effect of many stains on these bodies, and the conclusion is confirmed that the granules are acid in character. Our brief summary does not do justice to these valuable papers, but, useful as they are, they are only as it were the first fruits of a new line of investigation into the nature and diagnosis of malignant disease. We may feel sure that in the near future valuable assistance will be given to the clinician in determining the nature of doubtful growths. As to the significance of the absence of Altmann's granules from malignant tumours it is as yet too early to speak, but this question will no doubt be settled before long.

WALNUTS AND WINE.

TO not a few people there is a fascination about walnuts and wine. Walnuts, in fact, are seldom discussed without reference to port, but the association is physiologically unsound, especially as the invariable custom is to eat the walnuts and drink the port after dinner. The food value of walnuts is very high: they are very rich in fat, containing as much as 63 per cent., while the proteins amount to nearly 16 per cent. It has been calculated that 30 large walnut kernels contain as much fat as 2¾ lb. of lean beef, and yet the walnut is used as a supplement to a square meal. Added to this the glass of port, say two fluid ounces, contains besides 180 grains of alcohol 70 grains of grape sugar. In the combination, therefore, we have all the elements which make for a complete diet—viz., fat, protein, carbohydrate, to which may be added mineral salts. Port and walnuts after a meal are therefore, from a nutritive point of view, "ridiculous excess." The digestive disturbance to which this excess may easily lead is, in fact, the price paid for an æsthetic indulgence. The peculiar palatability of a crushed mass of walnuts occasionally moistened with an elegant port is in part attributable to the smooth creamy emulsion which is formed. An emulsion presents elegant flavours in a way which increases their appreciation. It should be added that both walnuts and port wine contain tannin, which is unsuited to some constitutions.

RADIUM IN INOPERABLE CANCER OF THE CERVIX UTERI.

AT a meeting of the Société Médicale des Hôpitaux of Paris on July 28th, M. H. Rubens-Duval and M H. Cheron communicated an important paper on the treatment of inoperable cancer of the cervix uteri by the more penetrating rays of radium. In general great amelioration was obtained, and in some cases the lesions cicatrised and the patient recovered apparently perfect health, which was maintained for several months. Some of the results were possibly cures. In one case radium was last applied on Feb. 17th, 1910, and since that date there have been no signs of the disease. More cogent than the clinical evidence was the microscopic examination of nine specimens. Two were removed post mortem. One was taken from a patient who had died from intercurrent infectious endocarditis and the other from a patient in whom the treatment was suspended when symptoms of generalisation of the disease appeared. The remaining seven specimens were obtained by hysterectomy from patients in whom the disease, at first inoperable, under radium regressed sufficiently to become operable. As soon as the regression, though manifestly partial, was sufficient to allow the cancerous uterus to be removed, the intervention of the surgeon was requested, as it was thought less dangerous to risk hysterectomy than dissemination of the disease while further local regression was being attempted. Hysterectomy was not always rendered possible, for the sclerosed uterus and vagina sometimes remained intimately united to the bladder and rectum. In such cases radium therapy alone is possible and ought to be followed until cicatricial tissues are obtained in which examination no

longer shows epitheliomatous manifestations. Of the seven specimens obtained by operation, four showed zones of epithelioma regressing but sufficiently extensive to be perceptible to the naked eye. This was only to be expected, as the treatment was suspended as soon as the improvement was sufficient to allow operation. These specimens showed destruction of the epitheliomatous cells under the influence of the radium rays. The following case is an example of how an inoperable case may be rendered operable. It was thus described by Dr. Lejars at the Société de Chirurgie on June 8th, 1910: "A woman, aged 47 years, was sent to me at the end of 1908 with a large epithelioma of the cervix extending into the anterior fornix and complicated by peri-uterine infiltration. The case appeared inoperable. Three applications of radium were made at intervals of a month. On each occasion an apparatus containing 5 centigrammes of the radium salt was left in the cervical cavity for 20 hours. A fortnight after the last application the fornices were much more supple and the cervix had diminished in size, and I was able to operate. I performed total abdominal hysterectomy with extensive resection of the vaginal wall on March 25th, 1909, under good conditions. The patient recovered and remained in good health for a year. Then recurrence took place." Of the five remaining specimens two showed complete absence of cancer in the uterus, vagina, and the broad ligaments. In the other three the absence of cancer in the cervix contrasted with the persistence of a focus in the body of the uterus near the isthmus. The possibility of such foci, which in consequence of their distance cannot be influenced by radium, shows that apparent cure of cancer of the cervix by radium must not be relied upon, but that as soon as the case becomes operable hysterectomy should be performed.

PLAGUE IN THE UNITED PROVINCES.

FROM a report on plague administration in the United Provinces of India for the year ending June 30th, 1911, we regret to learn that a very severe recrudescence of the disease has taken place: 314,495 deaths have been returned, a greater number than in any previous year except 1904–05. This is most disheartening in view of the great efforts that have been made to cope with the spread of the disease. Colonel C. C. Manifold, I.M.S., calls attention to two points of interest which are worthy of note, as in the present state of knowledge regarding its epidemiology any facts accurately recorded require to be borne in mind for future guidance. One point is that, although during the 12 months under review more than twice as many deaths occurred as in the 12 months immediately preceding, the mortality from July to October was less than in the corresponding period of the previous year. The explanation suggested is that the severe epidemic of January to May, 1910, may have killed off so many rats that they could not breed up to their usual numbers before October. The second point is that the two severe epidemics of the present and preceding years followed on good harvests, while 1908–09, in which less than 14,000 deaths occurred, was a famine year. The number of rats depends directly on the quantity of food available; within a few months they will "breed up to the food-supply." It is also noted that severe epidemics follow on early and heavy winter rains, leading to increased humidity of the air and a greater number of rat fleas. As to the progress of the epidemic, the deaths rose from 157 in July to 1231 in October and to a maximum of 94,739 in March, falling rapidly to 921 in June. The death-rate from plague for the whole province was 7·23 per 1000; for the towns it was 12·90; for the districts 6·80. The incidence was very unequal, Muzuffarnagar district suffering the most, with a mortality of 31 per 1000, while Dehra Dun, a few miles off, had no cases at all. The small town of Shikarpur had the highest death-rate—120·7; the large cities suffered very much less—e.g., Lucknow, 6·17; Benares, 10·86; and Allahabad, 1·60. It seems clear that the important factors in determining the severity of an epidemic are local. Large numbers of rats were destroyed, but Colonel Manifold states that experience has shown the absolute impossibility of carrying out rat destruction as a general measure, partly because of the expense, and partly because, after a number have been destroyed, the remainder will speedily breed up again in presence of abundant food-supply. In some districts the people refuse to set traps, as they look upon the rat as a friend who gives the first signal of danger, and "by the sacrifice of his own life gives timely warning of the advance of plague." A satisfactory feature is the increase in inoculations—91,065, compared with 76,120 in the previous year; also a great decrease in the deaths of the inoculated, only 83 compared with 442. The chief objection to the operation, which has to be submitted to yearly, is the recurring inconvenience. Evacuation of infected villages, the inhabitants camping out in the open air or in grass huts, is the favourite means of escaping from the disease, and is most efficacious. On the other hand, very little use is made of plague hospitals. Disinfection and railway inspection are assiduously carried out. Five special officers are now employed in the United Provinces to combat plague, Captain H. Ross, I.M.S., being chief plague officer. All possible precautions will be taken against the spread of plague along the lines of communication leading to Delhi. It must be admitted that the authorities of these provinces have a very arduous and responsible task before them in view of the approaching Coronation Durbar.

EMBRYOS OF THE TRICHINA SPIRALIS IN THE BLOOD IN TRICHINOSIS.

IN 1909 two American writers, Herrick and Janeway, announced that they had demonstrated the embryos of the trichina spiralis in the blood of a patient suffering from trichinosis. The discovery was a logical sequence to Staübli's experimental work on the mode of dissemination of the embryos in the guinea-pig. As an aid to the diagnosis its importance is obvious. In the *American Journal of the Medical Sciences* for September Dr. Albert R. Lamb states that at the Presbyterian Hospital, New York, he investigated four cases of trichinosis with reference to the presence of embryos in the blood and found them in two. From the other two several specimens of blood were thoroughly searched with negative result. In one of these cases the existence of trichinosis was proved by the demonstration of the parasites in the muscles; in the other the diagnosis was never definitely settled. The following are the positive cases: A man, aged 29 years, was admitted with a history of malaise and chilliness for nine days. Four days before admission he took to bed with general muscular pains and swelling of the face and hands. His brother was taken ill at the same time, and they both had eaten pork cooked by themselves a short time before the onset. Examination showed only a fine punctate rash over the abdomen, thorax, and arms. For three days the temperature was about 103° F., and then it gradually fell to normal. A blood count showed 10,000 leucocytes, of which 11·5 per cent. were eosinophile. A blood culture was sterile, but from it four embryos were obtained. In the other case an Italian, aged 20 years, was admitted complaining of backache and general malaise for five days and indefinite pains in the bones and joints for three days. At times he suffered from colicky pains. There were slight puffiness of the eyelids and cheeks, a coated tongue, palpable spleen, and a few fine reddish punctate

spots over the abdomen and chest. There was no muscular tenderness. The temperature was 104° and gradually fell to normal in a few days. The blood counts showed leucocytes varying from 12,000 to 15,600, and eosinophiles rising in a week from 3 to 14 per cent. A blood culture taken on admission was sterile; one embryo was recovered from it. Staübli's original method was used, the only modification being that the blood was obtained from the routine blood cultures made at the hospital, 10 cubic centimetres of blood being divided between two Erlenmeyer's flasks of meat infusion broth. After the culture had been reported sterile the clear supernatant broth was decanted and 10 volumes of 3 per cent. acetic acid was added to the sediment. The mixture was thoroughly shaken and centrifuged and the supernatant fluid was poured off. If the resultant sediment was too thick the laking with the acid was continued until a sediment was obtained in which the search was unhampered by numerous blood cells. A drop of the sediment was poured on a large slide and examined under a low power. The embryos appear as cylindrical slightly curved worms with a refractile outline and characteristic granular structure. The anterior end is a little narrower than the rest of the body and ends in a clear homogeneous cap. Foreign substances in the sediment, such as cotton fibres and fungus growths, may cause confusion, but when once seen the embryos are characteristic. In the present case they measured from 0·1225 to 0·1295 millimetre in length. In the few cases which have been recorded the earliest time at which the embryos have been found was on the seventh day of the disease and the latest the twenty-third.

THE PRIVY COUNCIL, THE CENTRAL MIDWIVES BOARD, AND THE ENFIELD MEDICO-ETHICAL SOCIETY.

THE question of the payment of the medical practitioner who is summoned on the advice of a midwife to attend a case in which under the rules for her guidance she is compelled to "advise that a registered medical practitioner be sent for" was recently raised again by the Enfield Medico-Ethical Society in the letter referred to in a report of the proceedings of the Central Midwives Board in THE LANCET of Oct. 21st, p. 1171. Reference to that report will show that the Enfield Medico-Ethical Society informed a midwife that the society had agreed that a midwife calling in a medical practitioner in any stage of a confinement "must guarantee a fee of not less than a guinea and a half and that the case be taken over entirely by the doctor." This letter appears to have been based upon a not uncommon misconception of the midwife's position and duties in the matter. She does not call in a medical man and is not required by the rules which govern her conduct to do so. She is, however, required in certain cases to decline to attend alone and *to advise that a medical practitioner be sent for*, and she is also required to supply the medical man who is so sent for with a document in a prescribed form reporting to him the conditions on account of which medical assistance is required. It is, perhaps, due to this document that her powers and duties are so often misunderstood. It is unfortunate and it is unjust to the medical profession, and also to midwives, that a position should have thus been thrust upon them by the Midwives Act which has inevitably led to difficulties. The position, moreover, is fraught with danger to the patient, whom the midwife must "cease to attend alone." The difficulty, of course, arises out of the fact that the patient has already engaged a midwife, who has absorbed in many cases all that is likely to be forthcoming in the way of a fee, and that (if he be paid at all) the medical man, who is only summoned to difficult cases, is expected to treat them at the same rate that he would charge when taking normal cases as well as those involving heavy responsibility. The remedy, however, must for the present consist in the obtaining of such payments as boards of guardians may decide to make (as they have power to do) in such matters, and in keeping the dissatisfaction of the medical profession before the Legislature whenever the occasion arises. As to the precise legal value of a guarantee obtained from a midwife in the manner proposed by the Enfield Medico-Ethical Society, we believe that its enforcement in a court of law would have been fraught with difficulty. If not so enforceable it would clearly have been useless.

SCLERODERMIA WITH SUBCUTANEOUS CALCAREOUS CONCRETIONS.

IN the September number of the *British Journal of Dermatology* a case of much interest is described by Dr. R. E. Scholefield and Dr. F. Parkes Weber. There exists a group of cases, characterised by the association of sclerodermia, especially of the fingers, with multiple small calcareous nodules, which have sometimes been mistaken for gouty deposits, but which on analysis have been found to consist mainly of calcium carbonate with some calcium phosphate. The disease progresses very slowly, and at first it is confined to the fingers and toes. The calcification appears to be secondary to the sclerosis, and it is largely dependent on degenerative and obliterative changes in the small blood-vessels. The case described in the article was that of a woman 50 years of age who had suffered from chilblains as a child. Later her fingers often went white, and from the age of 35 years the skin and soft parts of the fingers had been gradually becoming harder and stiffer, and from time to time indolent painful ulcers had formed at the finger-tips. When seen the ends of the fingers had the characteristic appearance of sclerodactylia, and that calcification was present was shown by X rays and by excision. The calcification was most marked on the palmar aspect of the terminal phalanges of the fingers, especially of the left hand. The feet appeared to be quite normal. Excellent skiagrams of the hands accompany the article. Apparently no previous case of this disease has been observed in this country. The literature of the subject has been recently collected by G. Thibierge and R. J. Weissenbach in the *Annales de Dermatologie*, 1911, p. 129.

VETERINARY TRAINING AND THE PUBLIC HEALTH SERVICE.

THE vast extension of the domain of pathology in recent years has brought into clear relief the intimate relationship between human and veterinary medicine. Particularly has the new science—bacteriology—contributed to this, not only by making plain the practical identity of many disease processes in the animal and the human being, and rendering possible the study of the one through the other, but also by demonstrating hitherto unsuspected channels of infection. As a consequence of this new science, exacting as it does considerable technical training and the command of adequate laboratory facilities, a specially trained set of medical practitioners has arisen adequately equipped to examine the problems of public health and preventive medicine. When investigating defects in human habitation, clothing, food, and occupation, they are necessarily driven to a consideration of matters affecting the domestic animals that come into relation therewith in various ways. The problem of tuberculous cattle, for instance, is closely interwoven with that of human tuberculosis. The need is continually becoming more obvious, therefore, for a class of veterinary sanitarians, highly trained in scientific research methods, to approach from the animal side the solution of those common problems that are already being vigorously

attacked from the human side by the medical officers of health. This need recently received forcible expression at the hands of the President of the Faculty of Physicians and Surgeons of Glasgow, Dr. David N. Knox, in his address at the opening of the Glasgow Veterinary College. After pointing out that no gulf existed between human and veterinary medicine, for both were based on the same scientific principles and threw light each upon the other, he urged upon the governors of the College, the veterinary profession, and the students the importance of the study of bacteriology. Referring to a feeling that seemed to be growing in the veterinary profession that veterinarians should be appointed meat and milk inspectors, he said that scientific laboratories were an absolute necessity for efficient inspection, and he proposed that there should be evolved a class of veterinary surgeons especially skilled and capable of working in such laboratories. For some time to come he feared that such officials would for the most part have to be sought among medical officers of health, until the veterinary profession awoke to the necessity of providing the scientific training required. Failing the establishment of a veterinary diploma in public health by the Royal College of Veterinary Surgeons, he offered as an alternative suggestion the establishment by the Glasgow Veterinary College of post-graduate courses in public health, which would involve the establishment of a public health laboratory, where special instruction in chemistry and bacteriology might be given with a practical examination at the end of the course. It seems certain that an increasing scientific equipment of veterinary sanitarians would secure valuable coöperation between the medical and veterinary professions in the field of public health.

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MEDICAL MAYOR.—Mr. Hugh Stott, M.R.C.S. Eng., L.R.C.P. Lond., has accepted the unanimous invitation of the Lewes town council to be mayor of the Sussex county town in the coming year.

SUCCESSFUL ACTION BY A MEDICAL MAN IN DEVONSHIRE.—At the Axminster county court on Oct. 17th and 18th, before his honour Judge Beresford and a jury, an action was brought by Dr. E. Tonge of Beer against a resident of Seaton for 15 guineas for professional services rendered to the defendant's child. There was a counter-claim against Dr. Tonge for £24 for damages for alleged want of reasonable medical care in his treatment of the child. The medical man who attended the child after Dr. Tonge had withdrawn from the case, in giving evidence stated in cross-examination that Dr. Tonge's diagnosis might have been perfectly accurate. After hearing this statement Mr. J. E. M. Dummett, defendant's counsel, said that the case would not be further proceeded with, for if they had thought such evidence possible the case would never have been gone on with. His honour remarked that Mr. Dummett had only acted in a way they expected a member of an honourable profession to act, and directed the jury to give a verdict for Dr. Tonge on claim and counter-claim, and he entered judgment for him with special costs.

THE POSITION OF THE MEDICAL PRACTITIONER UNDER THE NATIONAL INSURANCE SCHEME OF GERMANY.

(FROM A CORRESPONDENT.)

THERE have been published in THE LANCET during the past 12 months more than one article dealing with different phases of national insurance in Germany, and in these articles the comparative conditions prevailing in England and Germany have been dealt with as different points have arisen in discussing Mr. Lloyd George's Bill. But in view of the fact that the German example continues to be quoted by responsible speakers as though it held good in all cases for England, I venture to send you a detailed picture of the position of the medical practitioner under the National Insurance Scheme of Germany.

Position of Workers in England and Other Countries.

Over a century has passed since the first Bill designed to safeguard the health of the factory worker was enforced, when England not only set an example to other nations, but inaugurated a new era of social legislation. Great Britain has reason to be proud of the measures provided for the benefit of her industrial workers, and in this respect she still stands pre-eminent, for it may be safely asserted that in no other country is such care taken to safeguard the worker's health and welfare in the performance of his daily task.

Hitherto, attention has been directed more especially to the conditions under which the work in our great hives of industry is conducted; and if other countries, while following British example, have forestalled British politics by including measures designed to make provision for the worker during sickness and incapacity, it must be remembered that in those countries the introduction of compulsory insurance on the mutual system has been made imperative in the interests of the community at large. No country possesses so effective a system on the whole—and with full recollection of its defaults—for the relief of the poor as is to be found in the British Poor-law; while the voluntary and humanitarian institutions created in Great Britain to provide against any diminution in the wage-earner's capacity for work have for many years included within their sphere of activity a relatively considerable proportion of the entire army of industrial workers and have reached a degree of efficiency unapproached in any other country. This fact speaks highly for the thrift and good sense of the British working man. Twenty-five years ago, when Germany introduced compulsory insurance against sickness, the organisations of this kind then in existence in that country could be treated as a *quantité négligeable*; to-day, when Great Britain is about to follow suit, her Friendly Societies are a factor of paramount importance to the success of the scheme.

Comparison of British and German Measures.

Attention has already been drawn in your columns to the fact that the National Insurance Bill differs in many essential particulars from the German measure (see in particular THE LANCET, Sept. 30th, 1911, p. 956), but a detailed consideration of the points at variance will be opportune. Of particular importance to the medical profession is a consideration of the position of the medical practitioner under the German system, the more so since the Bill of the British Chancellor as it now stands shows the same disregard for the interests of the profession as is unfortunately the case in Germany. Moreover, owing to the absence in Great Britain of certain provisions in existence in Germany, the British practitioner will be placed at a greater disadvantage than his German *confrère*, so that there is every reason to study carefully the conditions under which the medical benefits are administered in Germany, in order to profit in time by the bitter experience gained by Continental colleagues. This course is all the more justified since this very subject offers numerous parallels in both countries, even to the extent that the framers of the British Bill appear intent on duplicating the mistakes made in Germany with regard to the position of the medical man in the working of the scheme, with results that are well known to all who have followed the course of events in Germany.

Scope of National Insurance Bill.

The National Insurance Bill includes within the scope of a single measure two distinct branches of industrial insurance—viz., provision during sickness and invalidity assurance. The insured are either to become members of an "approved" society or will be enrolled as Post Office contributors. Although the income limit for compulsory insurance is fixed at £160 per annum, employers and employees will be called upon to pay a uniform contribution, irrespective of the actual salary earned by the insured (except in the case of persons earning under 2*s.* 6*d.* a day, where the employer will be called upon to make good the difference). In addition to the contributions levied from both parties the State will participate financially in the working of the scheme. The insured will be entitled to receive free medical attendance and free medicine during sickness, as well as sick pay amounting to 10*s.* a week during the first 13 weeks, and 5*s.* during the remaining 13 weeks. Like the contributions, the sick pay will not be affected by the wage-earner's actual salary, only in the case of women and minors a lower scale of pay than the above will be granted. The invalidity benefit is fixed at the uniform rate of 5*s.* weekly. That, I think, is a fair summary of the British scheme. Now look at the German scheme.

The German Scheme.

In Germany insurance against sickness and invalidity form two distinct branches, each administered on totally different lines. The income limit for compulsory insurance is £100, and the administration of the sickness benefits provided in the statutes is entrusted to autonomous sick clubs, mostly of a local character. In smaller places a communal sick club embraces all the insured residing within its limits; in larger towns separate sick clubs are formed to include all the workers engaged in a particular trades or crafts. In addition to these organisations, industrial establishments employing at least 50 hands are empowered to form their own clubs for the benefit of their employees. All these sick clubs are entirely self-governing—that is to say, the management is vested in a board of which one-third of the members are representatives of the employers, and the remaining two-thirds of the employees. The State merely reserves to itself the right of supervision, and demands that every club shall possess a reserve fund amounting to an average year's expenses, based on the expenditure of the three preceding years.

As far as the existing Friendly Societies and similar voluntary institutions are concerned, the German law does not interfere in their activity, and as long as they provide their members with the minimum benefits required by the insurance measures, membership of one of these organisations excuses the worker from re-insuring in any other kind of compulsory club. The contributions levied depend upon the wage-earner's salary, and the total amount may not exceed 6 per cent. of his wages. Of this, one-third is paid by the employer and the other two-thirds by the employee; the State does not contribute towards the cost of sickness insurance. The sick pay, too, varies with the worker's salary and legally may not be less than half his usual wage throughout the entire period of 26 weeks, and should the insured undergo treatment in a hospital his dependents are entitled to receive an allowance amounting to half of the sum the breadwinner would be drawing were he to be treated in his own home.

Invalidity insurance is a separate measure with which is included provision for old age. The administration of this branch of social reform differs totally from that adopted in the case of sickness insurance, inasmuch as it is controlled by the State. It forms the subject of a special contribution which employer and employee alike have to pay, this time in equal shares, in addition to the sums levied for sickness insurance. Here, too, the contributions are graded according to the worker's salary, and the invalidity pension to which he is entitled varies with the length of time that he has been insured and with the wage class to which he belongs. In this case the State assumes a portion of the cost of administration and supplements every pension paid out of the funds of the scheme by an annual grant of £2 10*s.* The old age pensions, which become operative at the age of 70, are also subject to the same system of calculation.

Concrete Examples.

A concrete example will best illustrate the difference in the position of the insured under both schemes. The British worker earning 5*s.* a day will be called upon to pay a weekly contribution of 4*d.*, his employer 3*d.*, and the State will add 2*d.*; in all 9*d.* Assuming that the same man goes over to Germany and is insured in a sick club levying a rate of 2½ per cent., with the same salary he will have to pay 6*d.* and his employer 3*d.*, or 9*d.* for both. In addition to this employer and workman each will have to pay a weekly sum of 2¼*d.* towards insurance against invalidity and old age, so that the workman earning 30*s.* a week would, under these circumstances, pay in all for industrial insurance in Germany 8¼*d.*, and his employer 5¼*d.* weekly, or 4¼*d.* and 2¼*d.* more respectively than they will be called upon to pay in Great Britain. Of course, the fact must not be overlooked that in England old age pensions are not contributory, whereas in Germany provision to this end is included in the insurance against invalidity. Further, in England the workman during sickness will receive 10*s.*, and after 13 weeks 5*s.* as sick pay, and the latter amount in the case of invalidity. In Germany, on the contrary, he is entitled to a uniform sick pay of at least 15*s.* a week, and were he forced to go to a hospital his dependents would receive a weekly allowance of 7*s.* 6*d.* Sex and age are not allowed to influence the German rate of sickness benefit. As regards invalidity pensions, it may be mentioned that the lowest figure is £5 16*s.* per annum, and the highest may be given as about £22 10*s.*; as already stated, the sum paid out depends upon the insured person's wage class and the length of time that he has been insured. Old-age pensions range from £5 10*s.* to £11 10*s.*

It is evident from a consideration of the above examples that the German workman pays proportionately more than the British wage-earner will be called upon to contribute. The total contributions for both forms of insurance in Germany amount to 42*s.* 7*d.* per person insured, this figure representing an average weekly charge of 6*d.* on the workman's salary, and a little more than 3¼*d.* weekly to be paid by the employer. Insurance against accidents, as it is non-contributory for the workers, has not been taken into consideration; it has no bearing on the points under discussion.

Position of Medical Man under German Scheme.

Let us now consider the position of the medical practitioner under the German scheme. The insurance laws, otherwise replete with detail, contain no provisions for regulating the remuneration of the medical men whose duty it is to give effect to the medical benefits to which the insured are entitled. This is a most unfortunate omission, and the same mistake is apparently to be repeated in Great Britain. In Germany, however, there are no Health Committees to sanction contracts entered into between doctors and sick clubs, and all arrangements between both parties are made directly, without the intervention of any outside body. The practitioner who assumes the position of club doctor does so by private agreement with the board of the club, and the contract is not subject to ratification by any other person. At the present moment the average rate of remuneration of club doctors amounts to 4*s.* per head of the insured, and in the case of clubs which extend free medical treatment to the member's family the honorarium is about 12*s.* The question of free choice of doctor is usually regulated on the following basis: if the club has arrangements with a number of medical practitioners the insured are called upon annually to select a doctor from the list, and a change of doctor during the course of the same illness is not allowed. For the treatment of the insured living at some distance from the residence of the usual club doctors an arrangement is made whereby the services of the nearest practitioner alone will be available should occasion arise, a very wise provision which saves many a doctor from wasting his time in visiting patients residing at some distance.

With regard to the methods of remuneration in vogue, it is a matter for congratulation to note that the system of paying the club doctor a fixed annual salary in return for indefinite and practically unlimited calls upon his services is gradually dying out. In clubs where the members select their medical attendant for the coming year the total number in each case is multiplied by the *per capita* grant and the amount paid out in full to each doctor, who thus receives a remuneration proportionate in a way to the potential work he may be called upon to perform. Other clubs hand over the total sum provided for medical attendance to the local medical society, and the latter undertakes to divide the amount

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THE fourth Norman Kerr lecture of the Society for the Study of Inebriety will be delivered by Professor G. Sims Woodhead, M.D., professor of pathology in the University of Cambridge, on Tuesday, Nov. 14th, at 5 P.M., in the lecture theatre of the Pathological Department, Medical Schools, Downing-street, Cambridge. The subject will be the Action of Alcohol on Body Temperature and on the Heart, illustrated by diagrams and lantern slides.

MEDICAL MAYOR.—Mr. Hugh Stott, M.R.C.S. Eng., L.R.C.P. Lond., has accepted the unanimous invitation of the Lewes town council to be mayor of the Sussex county town in the coming year.

SUCCESSFUL ACTION BY A MEDICAL MAN IN DEVONSHIRE.—At the Axminster county court on Oct. 17th and 18th, before his honour Judge Beresford and a jury, an action was brought by Dr. E. Tonge of Beer against a resident of Seaton for 15 guineas for professional services rendered to the defendant's child. There was a counter-claim against Dr. Tonge for £24 for damages for alleged want of reasonable medical care in his treatment of the child. The medical man who attended the child after Dr. Tonge had withdrawn from the case, in giving evidence stated in cross-examination that Dr. Tonge's diagnosis might have been perfectly accurate. After hearing this statement Mr. J. E. M. Dummett, defendant's counsel, said that the case would not be further proceeded with, for if they had thought such evidence possible the case would never have been gone on with. His honour remarked that Mr. Dummett had only acted in a way they expected a member of an honourable profession to act, and directed the jury to give a verdict for Dr. Tonge on claim and counter-claim, and he entered judgment for him with special costs.

THE POSITION OF THE MEDICAL PRACTITIONER UNDER THE NATIONAL INSURANCE SCHEME OF GERMANY.

(FROM A CORRESPONDENT.)

THERE have been published in THE LANCET during the past 12 months more than one article dealing with different phases of national insurance in Germany, and in these articles the comparative conditions prevailing in England and Germany have been dealt with as different points have arisen in discussing Mr. Lloyd George's Bill. But in view of the fact that the German example continues to be quoted by responsible speakers as though it held good in all cases for England, I venture to send you a detailed picture of the position of the medical practitioner under the National Insurance Scheme of Germany.

Position of Workers in England and Other Countries.

Over a century has passed since the first Bill designed to safeguard the health of the factory worker was enforced, when England not only set an example to other nations, but inaugurated a new era of social legislation. Great Britain has reason to be proud of the measures provided for the benefit of her industrial workers, and in this respect she still stands pre-eminent, for it may be safely asserted that in no other country is such care taken to safeguard the worker's health and welfare in the performance of his daily task.

Hitherto, attention has been directed more especially to the conditions under which the work in our great hives of industry is conducted; and if other countries, while following British example, have forestalled British politics by including measures designed to make provision for the worker during sickness and incapacity, it must be remembered that in those countries the introduction of compulsory insurance on the mutual system has been made imperative in the interests of the community at large. No country possesses so effective a system on the whole—and with full recollection of its defaults—for the relief of the poor as is to be found in the British Poor-law; while the voluntary and humanitarian institutions created in Great Britain to provide against any diminution in the wage-earner's capacity for work have for many years included within their sphere of activity a relatively considerable proportion of the entire army of industrial workers and have reached a degree of efficiency unapproached in any other country. This fact speaks highly for the thrift and good sense of the British working man. Twenty-five years ago, when Germany introduced compulsory insurance against sickness, the organisations of this kind then in existence in that country could be treated as a *quantité négligeable*; to-day, when Great Britain is about to follow suit, her Friendly Societies are a factor of paramount importance to the success of the scheme.

Comparison of British and German Measures.

Attention has already been drawn in your columns to the fact that the National Insurance Bill differs in many essential particulars from the German measure (see in particular THE LANCET, Sept. 30th, 1911, p. 956), but a detailed consideration of the points at variance will be opportune. Of particular importance to the medical profession is a consideration of the position of the medical practitioner under the German system, the more so since the Bill of the British Chancellor as it now stands shows the same disregard for the interests of the profession as is unfortunately the case in Germany. Moreover, owing to the absence in Great Britain of certain provisions in existence in Germany, the British practitioner will be placed at a greater disadvantage than his German *confrère*, so that there is every reason to study carefully the conditions under which the medical benefits are administered in Germany, in order to profit in time by the bitter experience gained by Continental colleagues. This course is all the more justified since this very subject offers numerous parallels in both countries, even to the extent that the framers of the British Bill appear intent on duplicating the mistakes made in Germany with regard to the position of the medical man in the working of the scheme, with results that are well known to all who have followed the course of events in Germany.

Scope of National Insurance Bill.

The National Insurance Bill includes within the scope of a single measure two distinct branches of industrial insurance—viz., provision during sickness and invalidity assurance. The insured are either to become members of an "approved" society or will be enrolled as Post Office contributors. Although the income limit for compulsory insurance is fixed at £160 per annum, employers and employees will be called upon to pay a uniform contribution, irrespective of the actual salary earned by the insured (except in the case of persons earning under 2*s.* 6*d.* a day, where the employer will be called upon to make good the difference). In addition to the contributions levied from both parties the State will participate financially in the working of the scheme. The insured will be entitled to receive free medical attendance and free medicine during sickness, as well as sick pay amounting to 10*s.* a week during the first 13 weeks, and 5*s.* during the remaining 13 weeks. Like the contributions, the sick pay will not be affected by the wage-earner's actual salary, only in the case of women and minors a lower scale of pay than the above will be granted. The invalidity benefit is fixed at the uniform rate of 5*s.* weekly. That, I think, is a fair summary of the British scheme. Now look at the German scheme.

The German Scheme.

In Germany insurance against sickness and invalidity form two distinct branches, each administered on totally different lines. The income limit for compulsory insurance is £100, and the administration of the sickness benefits provided in the statutes is entrusted to autonomous sick clubs, mostly of a local character. In smaller places a communal sick club embraces all the insured residing within its limits; in larger towns separate sick clubs are formed to include all the workers engaged in a particular trades or crafts. In addition to these organisations, industrial establishments employing at least 50 hands are empowered to form their own clubs for the benefit of their employees. All these sick clubs are entirely self-governing—that is to say, the management is vested in a board of which one-third of the members are representatives of the employers, and the remaining two-thirds of the employees. The State merely reserves to itself the right of supervision, and demands that every club shall possess a reserve fund amounting to an average year's expenses, based on the expenditure of the three preceding years.

As far as the existing Friendly Societies and similar voluntary institutions are concerned, the German law does not interfere in their activity, and as long as they provide their members with the minimum benefits required by the insurance measures, membership of one of these organisations excuses the worker from re-insuring in any other kind of compulsory club. The contributions levied depend upon the wage-earner's salary, and the total amount may not exceed 6 per cent. of his wages. Of this, one-third is paid by the employer and the other two-thirds by the employee; the State does not contribute towards the cost of sickness insurance. The sick pay, too, varies with the worker's salary and legally may not be less than half his usual wage throughout the entire period of 26 weeks, and should the insured undergo treatment in a hospital his dependents are entitled to receive an allowance amounting to half of the sum the breadwinner would be drawing were he to be treated in his own home.

Invalidity insurance is a separate measure with which is included provision for old age. The administration of this branch of social reform differs totally from that adopted in the case of sickness insurance, inasmuch as it is controlled by the State. It forms the subject of a special contribution which employer and employee alike have to pay, this time in equal shares, in addition to the sums levied for sickness insurance. Here, too, the contributions are graded according to the worker's salary, and the invalidity pension to which he is entitled varies with the length of time that he has been insured and with the wage class to which he belongs. In this case the State assumes a portion of the cost of administration and supplements every pension paid out of the funds of the scheme by an annual grant of £2 10*s.* The old age pensions, which become operative at the age of 70, are also subject to the same system of calculation.

Concrete Examples.

A concrete example will best illustrate the difference in the position of the insured under both schemes. The British worker earning 5*s.* a day will be called upon to pay a weekly contribution of 4*d.*, his employer 3*d.*, and the State will add 2*d.*; in all 9*d.* Assuming that the same man goes over to Germany and is insured in a sick club levying a rate of 2½ per cent., with the same salary he will have to pay 6*d.* and his employer 3*d.*, or 9*d.* for both. In addition to this employer and workman each will have to pay a weekly sum of 2¼*d.* towards insurance against invalidity and old age, so that the workman earning 30*s.* a week would, under these circumstances, pay in all for industrial insurance in Germany 8¼*d.*, and his employer 5¼*d.* weekly, or 4¼*d.* and 2¼*d.* more respectively than they will be called upon to pay in Great Britain. Of course, the fact must not be overlooked that in England old age pensions are not contributory, whereas in Germany provision to this end is included in the insurance against invalidity. Further, in England the workman during sickness will receive 10*s.*, and after 13 weeks 5*s.* as sick pay, and the latter amount in the case of invalidity. In Germany, on the contrary, he is entitled to a uniform sick pay of at least 15*s.* a week, and were he forced to go to a hospital his dependents would receive a weekly allowance of 7*s.* 6*d.* Sex and age are not allowed to influence the German rate of sickness benefit. As regards invalidity pensions, it may be mentioned that the lowest figure is £5 16*s.* per annum, and the highest may be given as about £22 10*s.*; as already stated, the sum paid out depends upon the insured person's wage class and the length of time that he has been insured. Old-age pensions range from £5 10*s.* to £11 10*s.*

It is evident from a consideration of the above examples that the German workman pays proportionately more than the British wage-earner will be called upon to contribute. The total contributions for both forms of insurance in Germany amount to 42*s.* 7*d.* per person insured, this figure representing an average weekly charge of 6*d.* on the workman's salary, and a little more than 3¾*d.* weekly to be paid by the employer. Insurance against accidents, as it is non-contributory for the workers, has not been taken into consideration; it has no bearing on the points under discussion.

Position of Medical Man under German Scheme.

Let us now consider the position of the medical practitioner under the German scheme. The insurance laws, otherwise replete with detail, contain no provisions for regulating the remuneration of the medical men whose duty it is to give effect to the medical benefits to which the insured are entitled. This is a most unfortunate omission, and the same mistake is apparently to be repeated in Great Britain. In Germany, however, there are no Health Committees to sanction contracts entered into between doctors and sick clubs, and all arrangements between both parties are made directly, without the intervention of any outside body. The practitioner who assumes the position of club doctor does so by private agreement with the board of the club, and the contract is not subject to ratification by any other person. At the present moment the average rate of remuneration of club doctors amounts to 4*s.* per head of the insured, and in the case of clubs which extend free medical treatment to the member's family the honorarium is about 12*s.* The question of free choice of doctor is usually regulated on the following basis: if the club has arrangements with a number of medical practitioners the insured are called upon annually to select a doctor from the list, and a change of doctor during the course of the same illness is not allowed. For the treatment of the insured living at some distance from the residence of the usual club doctors an arrangement is made whereby the services of the nearest practitioner alone will be available should occasion arise, a very wise provision which saves many a doctor from wasting his time in visiting patients residing at some distance.

With regard to the methods of remuneration in vogue, it is a matter for congratulation to note that the system of paying the club doctor a fixed annual salary in return for indefinite and practically unlimited calls upon his services is gradually dying out. In clubs where the members select their medical attendant for the coming year the total number in each case is multiplied by the *per capita* grant and the amount paid out in full to each doctor, who thus receives a remuneration proportionate in a way to the potential work he may be called upon to perform. Other clubs hand over the total sum provided for medical attendance to the local medical society, and the latter undertakes to divide the amount

among the several club doctors. This is usually done by means of points; each doctor attributes a certain number of points to every case attended, and the whole is examined by a committee of the society which fixes the relative value of the services rendered and divides the money accordingly. Several clubs, however, pay the doctor for each case he attends, payment being based on a scale of fees established in the medical tariff, and this system of remuneration is naturally the fairest to both parties.

Duties of Club Doctors.

A few excerpts from a sick club doctor's contract will best illustrate his duties. He is enjoined not to lose sight of the interests of the club while attending to its members, and to guard against malingerers; sufferers from anæmia, particularly females, are not to be declared unfit for work unless this is really the case. The doctors are at liberty to attend all meetings of the board, and it is requested that they should consult the board with regard to serious cases of illness. Patients who wish to see the doctor in their own home must inform him of their desire before 8 A.M. during the summer months and 8 30 A.M. in winter. Patients who are able to go out should visit the doctor during his consultation hours. Suspected malingerers are to be sent at once to an hospital, also all infectious cases, as well as all patients who are not able to receive adequate care in their own home, or where a speedier recovery seems likely to result from treatment in the hospital. If the doctor thinks it necessary to prescribe for a member expensive articles, such as wine, brandy, special foods, or special treatment (e.g., massage, baths), the consent of the board must first be obtained. As far as possible only inexpensive drugs should be used in prescribing. For the remuneration granted the doctor agrees to attend by day or night to the members of the club, to apply plaster bandages, suture wounds, and perform small operations. For night visits in urgent cases to patients residing outside the doctor's place of abode the latter in some clubs receives a special fee of 3*s*. If the club doctor is prevented from attending to his professional duties for any cause he must provide a substitute at his own cost. For assistance at a birth he receives 10*s*.

Medical Tariff.

It will be seen from the above that the contract club doctor is only called upon to perform what may be termed routine work, and here we come to one of the great differences between the German and the British scheme. In both countries the insured are considered entitled to the best medical attendance, but in the British Bill no mention is made of any provision for major operations, &c. In Germany every sick club makes arrangements with a number of specialists—for instance, with an oculist, a specialist for internal complaints, for diseases of the ear, and of the throat and nose. If the club doctor considers it advisable for a patient to receive special advice or treatment he informs the board, which then gives the member a form authorising him to consult one of the specialists in question. The remuneration of the specialist's work is based on the minimum fees set forth in the official scale of charges for professional services. This is a medical tariff which establishes a maximum and minimum fee for every kind of medical or surgical service, and in the absence of any agreement between patient and doctor with regard to the latter's fee its provisions become operative. Its minimum charges are applicable in all cases where the cost of treatment is borne by the public funds, including the sick clubs. The figures below give the minimum fees only in illustration of the rate of remuneration for such work done on behalf of the insured (Prussian scale):—

Removal of foreign body from the larynx or œsophagus ...	6*s*.
Removal of nasal polypus	10*s*.
Resection of a joint	30*s*.
Operation for empyema	20*s*.
Operation for phimosis	6*s*.
Removal of foreign body from the cornea	3*s*.
Iridectomy	20*s*.
Removal of the eyeball	30*s*.
Curettage of the uterine cavity	10*s*.

In connexion with the above it may be here mentioned that in distinction to Great Britain, where the hospitals are dependent upon voluntary contributions for their maintenance, these institutions in Germany are either under the control of the municipality or of the State. Each hospital has a regular scale of charges, graded to suit various purses, and those undergoing treatment have to pay accordingly. In the case of sick club patients the lowest rates are usually charged. The accommodation in the hospitals is divided into three classes. First-class patients each have a room to themselves with one bed, and residents in the locality pay 6*s*. a day, non-residents 8*s*. In the case of acute infectious diseases these charges are raised to 8*s*. and 10*s*. respectively. Attendance at a birth is charged at least £2 10*s*. in this class. In the second class each room contains two or three beds, and the daily charges here amount to 3*s*. and 4*s*., or for infectious cases 4*s*. and 6*s*. for residents and non-residents respectively; confinements at least 30*s*. These charges are in force in the town hospital of the capital of one of the German Grand Duchies. In addition to these charges, patients in both classes have to pay 1*s*. a day for medical attendance, while dressings, medicines, wines, special forms of treatment (e.g., X rays), and washing of the body-linen are charged for extra. The third-class patients, which include members of sick clubs, pay at the rate of 2*s*. a day, and the fee for attendance at a birth is here fixed at 12*s*. In this class no extra charge for medicines or operations is made, except, of course, in the case of private patients who, if known to have means, may be called upon to pay. The fees are fixed by the director of the hospital, and in the case of first- and second-class patients who are residents of the town a sum equal to a fortnight's stay may be demanded in advance as security; in the case of non-residents this amount may be doubled to cover a month's treatment. It is apparent that German hospitals take no risks in dealing with well-to-do patients, a singular contrast with British hospital conditions. The third-class patients include all those whose treatment is paid for out of the public funds or by sick clubs, and the respective bodies are simply debited with the amount incurred. The whole is on a sound business footing and the hospital is run in the same manner as any other form of municipal enterprise.

Relations between Doctors and Clubs in Germany.

A few words on the relations between doctors and clubs may be of interest. It is the endeavour of the latter to keep down expenses for medical treatment and for medicines to as low a level as possible in order to provide the members with other forms of benefits, mostly taking the form of a higher rate of sick pay. For this reason the doctor is obliged to prescribe as cheaply as possible, and there are in existence in Germany several collections of formulæ which are supplied to club doctors for use when prescribing for patients. Thus in liniments olive oil is not to be used, instead some cheaper oil, rape-seed oil for instance, has to be prescribed. Expensive forms of dispensing are tabooed, such as infusions, divided powders, and pills. Some clubs go so far as practically to forbid solutions: to quote an instance, the doctor is required to prescribe half an ounce of potassium iodide with instructions to the patient to dissolve it in a wine-bottle full of water and to take a glassful as a dose. Instead, again, of prescribing, say, 10 powders, each containing 8 grains of phenacetin, the doctor writes out a prescription for 80 grains of this drug, with directions to "take as much as will go on the point of a knife." This course has been severely condemned, while the new Hungarian Pharmacopœia shows that the dangers which may arise from this loose form of dosage are fully recognised by forbidding the dispensing of all potent drugs in bulk.

As soon as a patient presents himself for treatment the doctor must make a report to the board of the club, informing it of the nature of the member's illness, and on the form he must state whether the patient has received permission to go out, and if so, the hours fixed by the doctor must be given. Every week the doctor has to make a report to the club, and when the patient is discharged as fit for work the exact date must be communicated to the board. If the doctor has reason to believe that he is dealing with a malingerer or is of opinion that hospital treatment would be advisable under the circumstances, he informs the board, and the latter takes the necessary steps to have the person admitted to hospital. If some special treatment appears indicated—for instance, massage, a course of baths, or a mineral-water cure—the consent of the club must first be obtained, and the extent to which such treatment is accorded depends naturally upon the financial position of the club.

Some organisations are able to send their members to such well-known resorts as Baden-Baden or Bad Nauheim to undergo treatment, or convalescents are sent to recuperate in some country place or sanatorium, several of which have been erected by the sick clubs in coöperation for the sole benefit of their members.

Invalidity Pensions.

The method in force in Germany with regard to applications for invalidity pensions are not without interest. The sick clubs have to make provision for their members for a period of 26 weeks, and at the end of this time, if the insured is still incapacitated for work, the benefits extended under the invalidity insurance now become operative. The insured must make an application to the invalidity insurance office, and in addition a medical certificate must be presented, for filling up which the doctor receives a fee of 5*s*. The information required is certainly exhaustive, this being partly due to the fact that an invalidity pension is only paid out if the applicant's capacity for work has been reduced to one-third of the normal, otherwise the authorities are empowered to make the person undergo a special form of treatment intended to restore him to complete health—this includes admission to a sanatorium for tuberculosis. In this certificate the doctor has to answer questions dealing with the following: complaints made by the applicant; commencement, duration, and course of the affections which have led to incapacity; duration of the last treatment by the doctor giving this certificate; objective examination—viz., constitution, appearance, bodily condition as regards strength and nutrition, pulse; nervous system; heart and blood-vessels; respiratory organs (circumference of chest in expiration and inspiration); organs of the abdomen (hernia); organs of sense; urinary and sexual apparatus; limbs; possible alcoholism; ultimate diagnosis. In addition the doctor must make statements as to the following: origin of the applicant's complaint and his degree of incapacity for work. Further, he must express an opinion as to whether the incapacity is likely to be permanent or whether a suitable form of treatment is indicated in order to improve the patient's earning powers or his condition of health. The last question on the form is, Do you suspect the applicant of exaggerating or malingering?

The Question of Dispensing.

A few words on an innovation, as far as Great Britain is concerned, which will follow the introduction of the National Insurance Bill may prove of interest here. It is proposed in great measure to divorce the doctor's duty of giving professional advice from dispensing, and the supply of medicine to the insured is to be handed over with few exceptions to the pharmacist. In Great Britain the public is accustomed to associate the tangible result of the doctor's visit with the professional advice given; both have grown to form a twin result of "calling in the doctor." This is to be changed under the new *régime*, and the bottle of medicine will no longer be bound up so intimately with the doctor's visit owing to the intervention of another party. It is an old custom which Great Britain shares alone with some Swiss cantons and the United States; elsewhere the doctor is strictly forbidden to dispense, and the compounding of all medicines is a privilege reserved to the pharmacist. In Great Britain the man with a registrable pharmaceutical qualification can open a pharmacy without further difficulty, and this condition prevails in the Latin countries, in Holland, and in Switzerland. In Germany, Austria-Hungary, Scandinavia, Russia, and the Balkan States the number of pharmacies is limited in proportion to the population, there being on an average one pharmacy for every 10,000 inhabitants. The exercise of the profession of pharmacy is treated in the light of a monopoly, and the authorities reserve to themselves the right of granting permission to open or conduct a pharmacy to suitable applicants. Under these circumstances it is easy to understand the great difference in the profession in Great Britain and abroad, and if the British pharmacist deals in numerous articles which his Teuton *confrère* is apt to consider beneath the dignity of a skilled profession to handle, it must be remembered that the conditions are totally different. Abroad the revenue of the pharmaceutical chemist, who is a university man, is largely derived from dispensing, which is far from being the case in British pharmacies, with the exception of certain businesses in the West End of London and a few quarters in great cities. However, in return for his privileged position the German pharmacist is hedged in by laws and regulations of the most drastic kind, and is under constant Government supervision—his pharmacy is inspected by the authorities from time to time in no perfunctory manner, and any slight transgression is recorded against the owner, with dire consequences at some later date.

Scale of Charges for Dispensing.

In these countries there exists another provision absent in Great Britain, but which, it appears, will have to be created to meet the requirements of the Insurance Bill. In those countries in which the exercise of pharmacy is subject to restriction, and also in Italy, there exists an authoritative scale of charges for dispensing, and for rich and poor alike the cost of a prescription is identical, severe penalties being inflicted in the case of any overcharge. These dispensing tariffs are elaborated by the Government authorities, the cost of a prescription being obtained by adding the charge for the ingredients, a charge for the manipulations entailed in compounding, and the charge for the container. Three prescriptions "taxed" according to the German tariff will illustrate this point:—

		s.	*d.*
1.	Potass. bromid., ʒii....	0	1
	Potass. iodid., ʒii.	0	8
	Aq. ad ℥vi.	0	4½*
	"Dispensation" (i.e., label, cork, registration)	0	2
	Bottle	0	2
	Cost of above prescription	1	5½

* Charge for solution, including water.

2.	Tinct. opii, ʒii.	0	4
	"Dispensation"	0	2
	Patent drop bottle	0	3
	Cost of above prescription	0	9
3.	Quinin. sulph., gr. jss.	0	1½
	Acetanilid., gr. x.	0	1
	Mitte pulv. xii.		
	Charge for mixing	0	2½
	Charge for dividing into 12 powders	0	7½
	"Dispensation"	0	2
	Cardboard box	0	2½
	Cost of above prescription	1	5

In the case of prescriptions for members of sick clubs most countries compel the pharmacist to grant a rebate (in Germany of 10 to 15 per cent.) off the charges of the official tariff; with few exceptions, due to differences of a local character, a member of a sick club can have his prescription made up in any pharmacy should there be more than one available in his place of residence. Indeed, the fact that one-fifth of the entire population of the German empire is insured is sufficient to prove that a very large proportion of the prescriptions now dispensed must belong to the class of club work. For reasons of economy the club patients are required to bring back the bottle or container in the event of having a prescription repeated, and the use of expensive pots or glass-stoppered bottles is forbidden, unless specially prescribed by the doctor.

Results of Capitation System.

It has been claimed for the National Insurance Bill that its introduction will tend to regulate the doctor's financial position by relieving him of the burden of unpaid bills, by the vast extension of the capitation system. From German experience it would seem that capitation payments are not in accordance with modern views of the relation between the work accomplished and the remuneration provided, and a system of this kind seems bound to prove unfair to one of the participants. The introduction of compulsory insurance in Germany was followed by a great increase in the number of medical students, and the competition among members of the profession was turned to advantage by the sick clubs. It must be remembered that in Germany the selling of practices is totally unknown, and partnerships in private practice do not exist, and a practice in that country does not represent capital as is the case in England. Soon the doctors discovered the mistake they had made, and recognising the futility of individual action they combined

to form a powerful organisation, known as the "Leipziger Verband"; its full title is the "Association of German Doctors for the Protection of their Economic Interests," and it now has a membership of over 23,000. The strikes of club doctors in Cologne and elsewhere are well known, and show that the association has not hesitated to adopt extreme measures in order to promote the material position of its members.

German Statistics.

In conclusion, some interesting figures from the official German statistics may be adduced to show the work entailed in practice by a scheme of national insurance. While the health of the empire has materially improved during the past quarter of a century, we are confronted by the peculiar fact that the volume of work accomplished in connexion with compulsory insurance has considerably increased, and incidentally the expenditure has assumed enormous proportions. In 1909 the average cost for medical attendance per head of the insured amounted to 5*s.* 9*d.*; this represents an increase of no less than 165·1 per cent. since 1885. Hospital treatment accounted for 3*s.* 4*d.* per insured, an increase of 122 per cent. since 1892, while the cost of medicines and appliances amounted to 3*s.* 7*d.*, an increase of 110·1 per cent. since 1885. It is interesting to note that the total expenditure per member in Germany amounts to 12*s.* 8*d.* for medical benefits. If we deduct two-thirds from the 3*s.* 4*d.* for hospital treatment, and consider the remaining 1*s.* 1*d.* as covering the cost of medical attendance (the figure accepted in Germany), this would mean that the actual cost of medical attendance per person insured amounts to 6*s.* 10*d.* No less than 40·3 per cent. of the insured were reported unfit for work during 1909; this represents an incidence of illness amounting to 42·2 per cent. among the males, and to 35·2 per cent. among the females. The average length of each case of illness, coupled with incapacity, amounted to 20·5 days, or 19·4 days in the case of males, and 23·8 days among the females. Per head of the insured this represents an average of 8·25 days' illness. These figures also show an increase in the course of the past 25 years.

GENERAL MEDICAL COUNCIL.

ELECTION OF DIRECT REPRESENTATIVES.

NOMINATIONS for candidates for the four vacancies, three for England and one for Scotland, on the General Medical Council must reach the Council Office at 299, Oxford-street, London, W., or, in the case of Scotland, 54, George-square, Edinburgh, by Nov. 1st. The candidates for the posts of Direct Representatives for England are, we understand, at present as follows: Dr. H. W. Langley Browne of West Bromwich, Dr. H. A. Latimer of Swansea (who both seek re-election), and Mr. T. Jenner Verrall of Bath, who are standing jointly as the three candidates recommended by the British Medical Association; Mr. George Brown of Callington, Cornwall, Dr. Sidney C. Lawrence of Lower Edmonton, and Dr. Arthur Hawkyard of Leeds, who are also standing jointly, and whose election address appears below; Mr. George Jackson of Plymouth; and Dr. Arthur Haydon of London.

Dr. Norman Walker of Edinburgh seeks re-election as the Direct Representative for Scotland, as was stated in our Scottish letter of last week.

To the Registered Medical Practitioners of England and Wales.

LADIES AND GENTLEMEN,—We have been invited by the Society of Members of the Royal College of Surgeons of England and the Imperial Medical Reform Union to allow ourselves to be nominated as candidates for the three vacant posts as Direct Representatives for England and Wales on the General Medical Council. These requests have been supported by so many practitioners that we have decided to accept their invitations. One of us (George Brown) has already served ten years on the Council, and his record of hard work there on your behalf is well known to you all.

In supporting our candidature you make an emphatic protest against the attempt now being made by the officials of the British Medical Association to seize upon all the four positions and fill them, not with representatives of the practitioners directly elected by them, but with nominees of the Council of the Association. If this attempt were successful the composition of the General Medical Council would revert to that prior to the Act of 1886—viz., an assembly of guardians of vested interests, and so opposed to the interests of "the rank and file." It is intolerable and unjust this endeavour to limit the candidature entirely to those men who hold office in the Association as long as there are others able and willing to represent the practitioners and independent of official trammels and whose course of action will be based on actual experience of your needs and whose policy is plainly defined by the terms of this address.

We three are standing on one and the same platform, which has amongst its stout planks: (1) suppression of quackery and imposture; (2) reform of the General Medical Council with an increase of its legal powers; (3) the one-portal system of examinations for qualification to practise our profession (read the leading article in THE LANCET of Oct. 21st, 1911); and (4) checking of the abuse of free hospital treatment.

With reference to No. 2, we think that the time has arrived for a thorough revision of the constitution of the General Medical Council. Consideration of its proceedings for ten years past will convince anyone that it is quite time our profession was governed by a council, the majority (at least) of whose members should be men elected by the practitioners of the United Kingdom and Ireland, and not by a council consisting of representatives of the teaching and examining bodies and of nominees of the Crown. These gentlemen have never been engaged in general practice and know little or nothing whatever of the difficulties that beset "the family doctor" or of the causes of our inadequate incomes, and those only obtained by excess of work.

The National Insurance Bill.—We think that the General Medical Council should have taken a more active part in safeguarding the interests of the profession which are so seriously threatened by this Bill promoted by Mr. Lloyd George, the Chancellor of the Exchequer. If you send us by your votes to the medical Parliament we intend to carefully watch all proposed legislation which appears likely to affect your interests, and to urge the Council, when it is necessary, to take prompt and effective action on your behalf. If the present legal powers of the Council are not equal to its work, then no time should be lost in acquiring further powers. We consider that the activity of the Council should extend far beyond the regulation of the studies and the registration of students after their approval by one or more of the numerous licensing bodies, whose interest in your welfare disappears as soon as they have pocketed their last fees and handed you a legal qualification to practise. We are in sympathy with the "good intentions" of the National Insurance Bill, but whilst giving the British Medical Association every credit for its efforts in this matter we are well aware that many of you think that in their conferences with the Chancellor of the Exchequer the necessity of a low wage-limit and an adequate capitation fee (and their definition in the Act itself) should have been insisted on. Further, Mr. Lloyd George might have been urged to seriously consider the alternative to a capitation fee of payment for work done. Failing recognition of the just claims of the practitioners, we consider that the proper course is to withdraw the Bill from Parliament or at least the clauses relating to medical attendance. We are convinced that the Bill, as it stands, will do us all great harm. In this direction the influence of the General Medical Council should be at once brought to bear on the Government.

Ourselves.—Our residential qualifications are excellent, for we live respectively in the South-West, North, and South-East of England. Whilst one (George Brown) has personal acquaintance with the conditions of practice in the South and West, following years of general practice in central London, another (Hawkyard) has the same experience of the North of England, and the third one (Lawrence) has a thorough knowledge of the conditions of practice in the Midland counties and London suburbs. We claim to be well qualified to represent you on the Council by reason of a very large united experience of medical work, both of a public and private character, and from a preventive as well

as a curative point of view. We thoroughly understand the evils of club and pauper practice from personal experience, which gives us an intimate knowledge of the requirements of "the man in practice."

On these grounds, and in view of our avowed policy, we confidently ask for your own votes and for your influence in securing other votes for

Your obedient servants,

GEORGE BROWN,
Hon. Sec. of the Imperial Medical Reform Union; formerly Direct Representative; Vice-President of the Society of M.R.C.S. Eng.

ARTHUR HAWKYARD,
President of the Leeds and District Medical Practitioners' Association.

SIDNEY C. LAWRENCE,
Hon. Sec. of the Society of M.R.C.S. Eng.; M.O.H. of Edmonton.

Oct. 24th, 1911.

To the Editor of THE LANCET.

SIR,—I have decided to become a candidate for election as a Direct Representative in order to promote the interests of English and colonial graduates holding foreign degrees.

It has been my endeavour for many years past to overcome insular prejudice and bring about a much needed reform—namely, the registration of foreign degrees—as an indication of academical distinction and evidence of study abroad. From a financial point of view this would bring more than £1000 into the treasury of the General Medical Council.

My address to the electors on this and other matters will be found in the current issue of THE LANCET and the *British Medical Journal*.

I am, Sir, yours faithfully,

ARTHUR GEORGE HAYDON, M.D.,
Secretary, Brussels Medical Graduates' Association.

Cavendish-square, London, W., Oct. 24th, 1911.

MALARIA IN BOMBAY.

IN April of the present year Dr. Charles A. Bentley, who has been employed on special duty in Bombay in connexion with malaria investigation, presented a report on his researches, which has now been published. In our issue of Sept. 2nd (p. 732) we noted the action of the Bombay Government consequent on this report; and on Sept. 23rd (p. 924) we reported the discussion that took place thereon by the City Corporation. Dr. Bentley's investigation was exhaustive, and his report offers several points of interest for discussion

Nature of Population.

In regard to the population involved, which numbered 977,822 at the Census in 1906, he shows that it was altogether abnormal; not only are the inhabitants of Bombay composed of very many different races—as many as 62 different dialects being spoken—but, in addition to the fixed and permanent population, there are three categories of "floating population"—viz., temporary residents for business purposes; a labouring class, shifting regularly according to the season of the year; and a very large number of travellers and pilgrims constantly arriving and departing. The vast majority of the inhabitants belong to the labouring class, and of these a very large number exist in conditions of the greatest poverty, one of the chief consequences being excessive overcrowding—as many as 22 persons have been counted asleep on the floor and adjoining verandah of a single-room tenement. In addition to the poverty so widely prevailing under normal conditions, during the last few years the increased prices of grain have considerably added to the difficulty of the struggle for existence.

In the earlier part of the last century Bombay had a rather good, but vague, reputation for health, owing to its sea breezes, though it is doubtful if this was deserved; malaria must have been present, but was not particularly prevalent. In 1903 Powell found the malaria parasite in 2542 out of 3413 blood specimens from the police. In 1905 the municipal corporation resolved that, in view of the increasing prevalence of, and high mortality from, fevers, a comprehensive inquiry should be instituted; nothing, however, of much importance was done until an investigation by Major Liston, I.M.S., in 1908, showed that in a particular area near the new docks 80 per cent. of the children had enlarged spleens, and 50 per cent. of those examined harboured malarial parasites in their blood. In November of that year the Bombay Government decided to undertake a systematic research into the whole matter of malarial causation and prevention; of this the present report by Dr. Bentley is the result.

Estimation of Malarial Prevalence.

The first point to be determined was the actual extent of malarial prevalence; this was effected (1) by making a census of enlarged spleens; and (2) by a systematic series of blood examinations for the parasite. As a result of a house-to-house "spleen census," by examining 52,536 children in different parts of the city, McKendrick found that in Ward A, the most southerly portion of the Bombay peninsula, extending from Colaba to the new docks and marine lines, the percentage with enlarged spleens was 29·9; in Ward B, adjoining Ward A to the north on the harbour side, the percentage was 13; while in no other ward was the percentage above 5·9; and in F and G, the two northernmost ones, it was only 1·1 and 1·0 respectively. The percentage for the whole city was 7·2, a figure which has, however, little significance, as the numbers examined in the various areas were not in proportional relation with the respective child populations. In Ward A, where spleen enlargement was found most frequently, approximately 80 per cent. of the children were examined; in Wards D to G, where the spleen enlargement was slight, less than 40 per cent. were examined; therefore, although 7·2 per cent. of the total number examined had enlarged spleens, the real incidence in the city was considerably less. Even on this incomplete examination the incidence is not high, and, as the author of the report states, Bombay is not, as a whole, very malarious. In certain ward-sections, however, the percentage was found to be much higher—e.g., 42·3 in Esplanade section (A Ward), 37·8 in Mandvi Section (B Ward), and 33 in North Fort (A Ward): though the prevalence in the two former may be associated with proximity to the New Dock Extension Works, this explanation will not hold good for the whole of the North Fort Section. In a part of this, and in Dhobi Talao Section on the west of the city, a large amount of malaria is due to mosquitoes breeding in the wells of private houses.

The second mode of examination for malaria—viz., search for parasites in the blood—confirmed the conclusions arrived at by the spleen census. The parasite index (percentage of infection) was found to be 37·5 in Esplanade Section, 34·9 in North Fort, and 40·8 in Dhobi Talao Section. The index was high in nearly all the other sections of A, B, and C Wards in the south and west of the island, while in the four other wards to the north the rate was much lower, in nearly all cases below 5 per cent. Dr. Bentley considers that it is hopeless to attempt to draw any conclusion as to the prevalence of malaria in different years, owing to the confused nomenclature adopted in the death returns, in which ague and remittent fever are returned as separate headings from malaria. He quotes the remarkable statement in the official *Bombay Gazeteer* that "Tarwadi and Byculla have a very low death-rate from malaria, but are notorious for the prevalence of ague and remittent fever"; this is as nice a "derangement of epitaphs" as Mrs. Malaprop herself could have produced.

Causation.

As to the causation of epidemic malaria in Bombay in recent times, Dr. Bentley is decidedly of opinion that the construction works of the Alexandra and Hughes Docks, commenced in 1904 and still in progress, have been largely responsible, by acting as a centre from which diffusion took place. In Mandvi section, for instance, which lies to the west of Victoria Dock, the disease penetrated some distance; and further west, about halfway through Chakla section, its progress being then barred by the high blocks of dwellings in the narrow streets of that neighbourhood. In some cases an enlarged spleen rate of 20 per cent. was found in residents on the side facing the harbour, while in tenements facing in the opposite direction the spleen rate was only 3 per cent. So also the railway staff resident near the Victoria terminus and on the side next the docks suffered severely (so much so that as many as ten trains had to be cancelled). On the P. and O. boats lying in the southerly berths of the Victoria Docks many cases of malaria occurred in 1908, but only among members of the crew who remained on board; ships lying out in the harbour were not affected. It was found, however, that this infection from the dock site would not

account for all the malarial incidence; in North Fort, in Dhobi Talao section on the west side of the island, and elsewhere, extensive incidence of malaria exists, due to the presence of open house wells, which form innumerable breeding places for the mosquito. The principal agent in transmission is considered to have been Neocellia stephensi. The sequence of events that caused the outbreak appears to have been as follows: (1) Existence of serious malarial infection in residents of North Fort near to the new dock works; (2) numerous open house wells, tanks, and cisterns in North Fort adjoining this area; (3) settling down of coolie labourers in temporary huts on the new dock site; (4) formation of pools of water in the vicinity; (5) gradual spread of Neocellia stephensi from North Fort to these new breeding places; (6) spread among the labourers; and (7) the occurrence in 1907–08 of climatic, economic, and other conditions favouring the outbreak. It is pointed out that the settling of large numbers of coolies in temporary huts on the site of their work was a contravention of the rule laid down by Colin more than 50 years since, and emphasised by Fayrer, that labourers should not be housed on the site of large excavation works, but should be removed from the locality.

Preventive Measures.

The measures that have been taken to combat the epidemic have been chiefly directed to the extermination of the mosquitoes concerned, by treatment of small pools and wells with pesterine—i.e., crude petroleum; by the covering of all open wells, tanks, and cisterns, and the draining and filling in of these wherever feasible; and by the free distribution of quinine daily in sugar-coated tablets. The systematic and thorough inspection and protection of wells, both in and near houses, and of tanks and cisterns, are the measures regarded as of most importance. Some amount of success has already attended the efforts that have been made. The discovery by Major Liston that Neocellia stephensi was the carrier responsible for most of the infection made it possible to concentrate preventive measures against this species; infected individuals were not met with before the middle of July, either in 1909 or 1910. The commonest anopheline mosquito in Bombay is Nyssomyzomyia rossi, but no instances of malarial infection of this species were discovered. Dr. Bentley points out in conclusion that, as eradication of malaria is the end to be achieved, permanent measures for the protection or abolition of the breeding places of malaria carriers must have precedence, though at the present time in places like the new dock works special temporary measures will be required; quinine administration is subordinate, but not to be neglected. He estimates the cost at rather more than a lakh of rupees, or about £7000, per annum, while the present money loss from sickness and death due to malaria he calculates at about twelve times this amount.

We have only touched on a few points in the report of this inquiry, which appears to have been conducted in the most painstaking and exhaustive manner; it indicates with precision on what lines action should be taken, and it is to be hoped that sanitary administrations throughout India will be prompted also to take action, on lines similar to, though not necessarily the same as, those so forcibly recommended by Dr. Bentley.

THE LONDON COUNTY COUNCIL AND MEDICAL AFFAIRS.

Annual Report of the Education Medical Officer.

DISCUSSION took place at the meeting of the Education Committee of the London County Council on Oct. 25th on the annual report for 1910 of the medical officer of the education service (Dr. Kerr). The report will be issued shortly, but in the meantime the general purposes subcommittee presented a summary of the document, which, it said, had been subjected to much examination and criticism on account of the increase in cost of medical work in the schools. Naturally this increased work had necessitated the augmentation of the medical staff. Beginning with 40 quarter-time doctors in 1908, this staff had been increased to 56 on Sept. 1st, 1909, and to 72 on Sept. 1st, 1910. The professional staff employed at the end of 1910 numbered 84 doctors (70 men and 14 women), giving time equivalent to the full time of 24 medical officers. As from Jan. 1st, 1911, this staff had been further increased to 114 doctors (96 men and 18 women), giving time equivalent to the full time of 32 medical officers. The permanent staff at the end of 1910 comprised the medical officer (education), two assistant medical officers (full-time), two assistant medical officers (half-time), seven assistant medical officers (quarter-time), including specialists in mental, ophthalmic, aural, orthopædic, and dental work, together with 72 medical inspectors (quarter-time). This staff had been increased as from Jan. 1st, 1911, by two assistant medical officers (full time) and 28 medical inspectors (quarter-time).

As the Council's arrangements made four years ago for carrying out the statutory duties imposed by the Education (Administrative Provisions) Act, 1907, had now fully developed, and medical inspection was completely organised in all the schools, it was anticipated that the staff at present engaged would be sufficient to cope with the work.

Of the children examined in full detail there were recorded in last year's report (1909) the results of 37,420 examinations, with 12,656, or 33 per cent., requiring medical treatment. These represented children at all ages. Of the 172,619 children examined in 1910 and noted in detail, 52,954, or 32·6 per cent., received advice cards. The proportion of children who would be selected by the doctors after careful examination and given advice cards could now be fixed on the basis of the last two years as 65,610 out of 210,039, which is 32 per cent., or approximately one-third of those examined. Of the 172,619 children recorded, 81,151 were returned as normal—i.e., free from any definite organic defect. Bad defects of vision or eye diseases were recorded in 18,923. Defects of throat or nose numbered 29,927; of ears or hearing, 9499; skin disease, 2913. This included 453 ringworm cases found by the medical officers, ringworm being generally excluded by the nurses; other diseases were recorded in 15,296.

With regard to the state of nutrition of individual children, those recorded as in good condition were 46·7 per cent., those in moderate condition 41·8 per cent., and those in bad condition 11·5 per cent. The physique of the children had been made the subject of considerable research, the results of which were presented in the form of charts. The various groups shown on the charts corresponded very closely with the three classes distinguished by the British Association. The correspondence of the result with the predominant occupation of the parents in each area was, with a few exceptions, remarkably close. The lower averages were found in the riverside districts, North Kensington, and in a central area extending from the Strand district to Bow and Bromley. The most unexpected figure was the weight recorded for Fulham, and here the majority of the children were tidy and came from apparently comfortable homes of the artisan and commercial class. The committee pointed out that the numbers at present available were, perhaps, too small and liable to error from exceptional children.

During the year under review some beginnings were made with the provision of dental treatment for children, but so little had the public realised the value of this service that its development must be slow. Medical inspection was now carried out in all the Council's secondary schools, training colleges, trade and technical schools. It was just as important in these institutions as in the elementary schools, and, from the economical point of view, probably more important. Each student was examined once a year, and each institution visited once in six weeks. Great difficulties were still experienced in the provision of proper educational treatment of epileptics, neither was there at present any special accommodation for children who were both mentally and physically defective. In 1910 there was a striking diminution in the incidence of scarlet fever and diphtheria. Measles, on the contrary, had been unusually prevalent, the figures both for the spring and autumn showing an abnormal rate of incidence for the time of the year.

In the course of a short discussion Mr. A. J. Shepheard referred to Dr. Kerr's complete report as a most interesting survey of one phase of the social life of London. Both Mr. Shepheard and Miss Adler, a subsequent speaker, urged the importance of making the Council's arrangements for medical treatment more complete.

The report was ordered to be placed on sale.

The Propagation of the Unfit.

The Asylums Committee in a report to the London County Council on Oct. 24th mentioned the case of a female patient,

aged 67 years, who was admitted to Colney Hatch Asylum on Sept. 12th, 1911, for the sixteenth time since April, 1872. The patient had also been in other asylums on eleven occasions. She was married at 18 years of age, and had had 13 children, five of whom were dead. Her first attack of insanity was at the age of 21, when her first child was born. The patient's children were said to be all healthy with the exception of two, who had recently shown signs of insanity. She had two aunts in asylums, and two of her sisters had suffered from insanity; both were dead, one having committed suicide. The committee submitted these particulars by way of supplementing the history of a male patient given some time ago.[1] It seemed a striking illustration of the need for legislation to prevent the increase of the unfit.

Deportation of Alien Pauper Lunatics.

The Asylums Committee also reported as to the proceedings taken under the Aliens Act, 1905, with a view to deporting to their own countries foreign lunatics chargeable to London ratepayers. The number of certificates granted by stipendiary magistrates since the Act came into operation was 86, and 59 patients had been deported. This left 27 to be accounted for, and as to these the Home Secretary did not see his way to make an expulsion order in 14 cases, four died before the expulsion order was issued, one case was removed to a private institution, and eight cases were still under consideration by the Home Secretary. In addition 12 patients had been deported without a certificate being necessary. The total number deported to date was 71.

London Asylum Accounts.

The district auditor reported on the accounts of the London county asylums for the year ended March 31st, 1911. The total expenditure of the committee was £620,249, the cost of maintenance of the ten asylums varying from £70,061 in the case of Claybury to £11,544 in the case of the Epileptic Colony. The expenditure on maintenance showed an increase of £17,157 on the figures of the previous year; this was due chiefly to the higher cost of provisions and necessaries. The auditor gave definite figures on this point. Provisions in the year ended March, 1910, cost £173,422; in 1911, £184,263, an increase of £10 841. Necessaries in 1910 cost £60,482, and in 1911 £63,412, an increase of £2930.

Dr. Geoffery Clarke, second assistant medical officer at Long Grove Asylum, has been appointed first assistant medical officer at Colney Hatch Asylum.

Dr. J. J. Murphy has resigned his appointment as first assistant medical officer at Banstead Asylum in order to go abroad, and the committee has received the resignation with regret.

MEDICINE AND THE LAW.

A House Surgeon's Claim under the Workmen's Compensation Act.

IN the Court of Appeal recently an appeal was heard in which the house surgeon of the Kidderminster Infirmary appealed against the decision of the county court judge who had refused to award him compensation under the Workmen's Compensation Act. The circumstances in which he had claimed were as follows. Subscribers had purchased for the infirmary an X ray apparatus. The house surgeon had voluntarily offered his arm for the purpose of experiment to test the length of exposure to the rays, and having sustained a burn, applied for compensation to the infirmary committee. The county court judge held that it was no part of the applicant's duties to expose himself to the risk of such an experiment, and that consequently the accident did not arise out of and in the course of his employment, and refused to award compensation. The Court of Appeal, after hearing the arguments of counsel on behalf of the appellant, did not call upon the defendants' counsel to reply, and dismissed the appeal with costs, holding that it was no part of a house surgeon's duties to submit himself to dangerous experiments, and confirming the decision of the county court judge that the accident did not arise out of and in the course of the appellant's employment.

[1] THE LANCET, April 8th, 1911, p. 961.

An Action for the Recovery of Fees.

In the Chertsey county court recently Dr. S. G. Tippett sued Sir Joseph B. Robinson, claiming £84 19*s.* for fees for professional attendance alleged by the plaintiff to have been rendered at the request of the defendant to a woman who had been injured in a collision between his motor-car and the cart in which she was riding. The defendant denied that he had employed the plaintiff to attend the woman or authorised his employment. According to Dr. Tippett's evidence the services which he rendered, including the engagement of two nurses, were authorised on behalf of the defendant by Lady Robinson, with whom he communicated by telephone after he had been called to attend the patient at the time of the accident. He was aware that a sum of money had been paid to the injured woman in respect of the accident. Sir J. B. Robinson denied having given any authority for the engagement of the plaintiff in connexion with the case, or that he had ever admitted liability for the accident. He stated that he had paid 14 guineas for the nurses engaged as an act of charity to the injured woman. Lady Robinson denied having authorised the indefinite engagement of nurses, and further denied that she had agreed to pay the plaintiff's charges, and also that she had any authority to pledge her husband's credit. The defendant's chauffeur denied having engaged the services of a medical man, and stated that nothing had been said at the time of the accident as to the defendant being responsible for the expenses to be incurred. A verdict for the plaintiff for £50 was returned, leave to appeal being granted.

Juries and Sympathy in Cases of Infanticide.

Some not unneeded observations were made by Mr. Justice Scrutton to a jury at the Old Bailey recently when summing-up the evidence in a case in which a young married woman, 25 years of age, was being tried for the manslaughter of her infant son. There was evidence that the prisoner had suffered from depression. His lordship reminded the jury that they must not allow their sympathies to interfere with their giving true answers to questions of fact, and informed them that he had in his list for trial four cases arising out of the deaths of infants immediately after their birth. He pointed out that the effect of leniency on the part of juries in response to appeals to their sympathies must ultimately be an increase in the number of babies killed immediately after birth "in order to get them out of the way," adding, "your business is to answer questions of fact according to the facts and not in accordance with your sympathies. The question of punishment is for the court, and I ask you to do me the justice to believe, although I have a red robe and a wig, that I am a man, with exactly the same feelings and sympathies as yourselves; and for the punishment you must trust the judge." The extent to which infants are killed or allowed to die at birth because it is desired that they should be "out of the way" is probably more fully realised by the medical profession than by the public at large, and has long been a subject of protest by them. The woman who is placed in the dock to answer a charge of killing her child finds it easy to excite sympathy, and sometimes obtains it more readily than if want, or whatever the predisposing cause may be, had led her to commit an illegal act of a different character. On the other hand, it is not denied that a woman situated as the prisoner was in the case under comment may be legitimately an object of profound pity. In short, to put an end to the life of a human being is an act demanding full investigation and careful consideration to determine the degree of criminality involved. Mr. Justice Scrutton eventually recognised the claim to clemency of the prisoner before him, after the jury had convicted her, by passing upon her a sentence of five days' imprisonment, which implied her immediate release; but the jury equally rightly affirmed that a crime had been committed. The tendency of juries to assume the right to exercise clemency, which is for the judge in his discretion and with his fuller knowledge and experience, was illustrated in two instances at this trial. The grand jury had thrown out the indictment for murder, although, as the judge observed, they had received no recommendation from the court to do so, and although the prisoner had admitted having given her child three teaspoonfuls of laudanum and having then drunk the remainder of the drug in her possession, facts which rendered it at least probable that she intended to kill him and herself

as well. Secondly, at the close of the case the jury which tried it at first returned as their verdict that the prisoner was guilty, but was not responsible for her actions. The effect of this, as was pointed out to them by the judge, would have been to consign her to a criminal lunatic asylum, but the finding of irresponsibility was withdrawn at his lordship's suggestion and a recommendation to mercy substituted, with the result stated above.

The Absence of a House Surgeon from an Inquest.

At an inquest at Doncaster recently comment was made by the coroner, and a rider was appended to their verdict by the jury censuring the house surgeon of the infirmary who had failed to attend as a witness. The deceased had died in the infirmary after meeting with an accident, and a medical man who had seen him when he was under treatment was able to give evidence as to the cause of death. The inquest was held at 5 P.M., and in the course of the afternoon the house surgeon had communicated with the coroner by telephone, and had told him that he had made arrangements for going away that afternoon. The house surgeon had also mentioned the name of the medical practitioner who could, and who in fact did, give evidence with regard to the case. The house surgeon had been told by the coroner that he must attend as a witness unless the substitute whom he mentioned could give evidence that would be sufficient, but he had not been formally summoned. In the circumstances it is difficult to see why the house surgeon should be made the object of censure in his absence, and without any opportunity being given to him to explain; and it may be added that if he had foregone his plans, whatever they may have been, and attended, he would not as a member of the staff of a hospital have been entitled to the ordinary fee of a medical witness.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 77 of the largest English towns, having an estimated population of 16,157,797 persons in the middle of this year, 7574 births and 4450 deaths were registered during the week ending Oct. 21st. The annual rate of mortality in these towns, which had steadily decreased from 21·2 to 14·9 in the eight preceding weeks, further declined to 14·4 per 1000 in the week under notice. During the first three weeks of the current quarter the mean annual death-rate in these towns averaged 14·8 per 1000, and was 0·1 per 1000 below the annual death-rate during the same period in London. The death-rates in the 77 towns last week ranged from 6·8 in Hornsey, 7·0 in Grimsby, 8·3 in Coventry, and 9·6 in Merthyr Tydfil to 21·5 in Dewsbury, 21·6 in Bootle, 22.2 in Bury, and 22·7 in Sunderland. The 4450 deaths from all causes in the 77 towns were 183 fewer than the number in the previous week, and included 406 which were referred to the principal epidemic diseases, against numbers decreasing from 2900 to 512 in the eight preceding weeks. Of these 406 deaths, 223 resulted from infantile diarrhœa, 60 from diphtheria, 48 from enteric fever, 37 from measles, 25 from whooping-cough, and 13 from scarlet fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases last week was equal to 1·3 per 1000, against 2·6 and 1·7 in the two preceding weeks. The deaths of infants under 2 years of age attributed to diarrhœa, which had steadily decreased from 2714 to 357 in the eight preceding weeks, further declined to 223 last week, and caused the highest annual death-rates of 2·2 in Bootle, in St. Helens, and in Warrington, and 2·5 in York. The deaths referred to diphtheria, which had averaged 45 in the three preceding weeks, rose to 60 last week, and included 18 in London, 4 in Portsmouth, and 3 in Liverpool. The fatal cases of enteric fever, which had been 35, 37, and 39 in the three preceding weeks, further rose last week to 48, which was the highest number recorded in any week of the current year; 10 deaths were recorded in Hull, 8 in London, 4 in Bradford, and 3 in Stoke-on-Trent. The deaths attributed to measles, which had been 19, 18, and 27 in the three preceding weeks, rose again last week to 37; 13 deaths occurred in London, 8 in Wolverhampton, 3 in Nottingham, and 3 in Salford. The deaths referred to whooping-cough, which had been 51, 55, and 35 in the three preceding weeks, further decreased to 25 last week, and included 4 in Birmingham, 3 in London, 3 in Cardiff, and 2 in Sunderland. The 13 fatal cases of scarlet fever were 3 in excess of the number in the previous week, and included 2 in Liverpool. The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had steadily increased from 1327 to 1966 in the seven preceding weeks, had further advanced to 2106 on Saturday last; 344 new cases of this disease were admitted to these hospitals during the week, against 333, 293, and 355 in the three preceding weeks. These hospitals also contained on Saturday last 1099 cases of diphtheria, 206 of whooping-cough, 173 of enteric fever, and 82 of measles, but not one of small-pox. The 1239 deaths from all causes in London last week were 94 less than the number in the previous week, and included 228 which were referred to diseases of the respiratory system, against numbers steadily rising from 73 to 210 in the seven preceding weeks. The deaths attributed to different forms of violence in the 77 towns, which had increased from 134 to 170 in the three previous weeks, declined to 150 last week, and 346 inquest cases were registered. The causes of 39, or 0·9 per cent., of the deaths registered in the 77 towns during the week under notice were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Sheffield, Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Nottingham, Salford, and in 52 other smaller towns. The 39 uncertified causes of death last week included 10 in Birmingham, 9 in Liverpool, and 2 each in Portsmouth, Leicester, St. Helens, Hull, and Gateshead.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns, having an estimated population of 1,710,291 persons in the middle of this year, 891 births and 513 deaths were registered during the week ending Oct. 21st. The annual rate of mortality in these towns, which had been 14·9 and 16·4 per 1000 in the two preceding weeks, declined to 15·7 in the week under notice. During the first three weeks of the current quarter the mean annual death-rate in these Scotch towns averaged 15·7 per 1000, and was 0·9 per 1000 above the mean death-rate during the same period in the large English towns. The annual death-rates in the Scotch towns last week ranged from 11·6 and 14·0 in Perth and in Edinburgh to 16·8 in Leith and 17·0 in Glasgow. The 513 deaths from all causes in the eight towns were 25 less than the number in the previous week, and included 47 which were referred to the principal epidemic diseases, against 60 and 74 in the two preceding weeks; of these 47 deaths, 20 resulted from diarrhœa, 9 from measles, 7 from scarlet fever, 5 from diphtheria, 5 from whooping-cough, and 1 from enteric fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases in the eight towns last week was equal to 1·4 per 1000, and was 0·1 per 1000 above the mean death-rate from the same diseases in the 77 large English towns. The deaths attributed to diarrhœal diseases, which had been 52, 33, and 41 in the three preceding weeks, declined to 20 last week, and included 17 of infants under two years of age; 9 deaths were registered in Glasgow, 5 in Dundee, and 3 in Edinburgh. The deaths referred to measles, which had been 1, 4, and 5 in the three previous weeks, further rose last week to 9, and comprised 7 in Glasgow and 2 in Aberdeen. The 7 fatal cases of scarlet fever were 1 below the number returned in each of the two preceding weeks, and included 2 each in Glasgow, Aberdeen, and Greenock. The deaths attributed to diphtheria, which had been 13, 11, and 12 in the three preceding weeks, declined to 5 last week, of which 2 were recorded in Glasgow. The 5 deaths referred to whooping-cough were equal to the average in the two preceding weeks, and included 3 in Glasgow. The fatal case of enteric fever occurred in Glasgow. The deaths referred to diseases of the respiratory system, which had steadily risen from 41 to 80 in the five preceding weeks, declined to 78 last week, and were 2 below the number returned in the corresponding week of last year. Of the 513 deaths from all causes in the eight towns last week, 182, or 35 per cent., were recorded in public institutions, and 27 deaths were attributed to different

forms of violence. The causes of 12, or 2·3 per cent., of the deaths in the eight towns last week were not certified; in the 77 English towns the proportion of uncertified causes last week did not exceed 0·9 per cent.

HEALTH OF IRISH TOWNS.

In the 22 town districts of Ireland, having an estimated population of 1,149,495 persons in the middle of this year, 540 births and 409 deaths were registered during the week ending Oct. 21st. The annual rate of mortality in these towns, which had been 19·6 and 19·3 in the two preceding weeks, declined to 18·6 per 1000 in the week under notice. During the first three weeks of the current quarter the mean annual death-rate in these Irish towns averaged 19·2 per 1000; in the 77 English towns the mean annual death-rate during the same period did not exceed 14·8 per 1000, while in the eight Scotch towns it was equal to 15·7. The annual death-rate last week was equal to 20·0 in Dublin (against 14·3 in London), 17·0 in Belfast, 26·5 in Cork, 8·9 in Londonderry, 20·4 in Limerick, and 26·6 in Waterford; in the 16 smallest of these Irish towns the mean annual death-rate did not exceed 15·7 per 1000. The 409 deaths from all causes were 16 less than the number returned in the previous week, and included 47 which were referred to the principal epidemic diseases, against 81 and 74 in the two preceding weeks; of these 47 deaths, 31 resulted from diarrhœa, 4 from enteric fever, 4 from scarlet fever, 3 from measles, 2 from whooping-cough, 2 from diphtheria, and 1 from typhus, but not one from small-pox. These 47 deaths from the principal epidemic diseases were equal to an annual death-rate of 2·1 per 1000. The mean rate from the same diseases in the 77 English towns last week was equal to 1·3, while in the eight Scotch towns it did not exceed 1·4 per 1000. The deaths attributed to diarrhœal diseases, which had steadily decreased from 121 to 58 in the five preceding weeks, further declined to 31 last week, all of which were of infants under two years of age; 13 deaths were recorded in Dublin, 9 in Belfast, 2 in Wexford, and 2 in Sligo. The 4 deaths referred to enteric fever were equal to the average in the three preceding weeks, and were all registered in Dublin. The 4 fatal cases of scarlet fever were slightly in excess of recent weekly numbers, and occurred in Dublin. The 3 deaths attributed to measles were also slightly in excess of recent weekly numbers and included 2 in Dublin and 1 in Cork. The 2 deaths referred to whooping-cough were equal to the average in the three preceding weeks, and comprised 1 in Dublin and 1 in Belfast. The 2 fatal cases of diphtheria were recorded in Cork and Dundalk respectively, while that of typhus was registered in Dublin. The deaths referred to diseases of the respiratory system, which had been 64 and 50 in the two preceding weeks, rose to 66 last week. Of the 409 deaths from all causes in the Irish towns last week, 137, or 33 per cent., were recorded in public institutions, and 8 deaths were attributed to different forms of violence. The causes of 14, or 3·4 per cent., of the deaths registered in the 22 towns last week were not certified either by a registered medical practitioner or by a coroner after inquest; the proportion of uncertified causes in the week under notice did not exceed 0·9 per cent. in the 77 large English towns, and was equal to 2·3 per cent. in the eight Scotch towns.

VITAL STATISTICS OF LONDON DURING SEPTEMBER, 1911.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 6·9 per 1000 of the population, estimated at 4,522,628 persons in the middle of the year. In the three preceding months the rates were 4·4, 5·1, and 4·4 per 1000 respectively. The lowest rates last month were recorded in Paddington, Kensington, the City of Westminster, Hampstead, and Holborn; and the highest rates in St. Marylebone, Finsbury, Shoreditch, Bethnal Green, and Deptford. Scarlet fever was much more prevalent than in the preceding month; among the several metropolitan boroughs the greatest proportional prevalence of this disease was recorded in St. Marylebone, Hackney, Shoreditch, Bethnal Green, and Deptford. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals, which had been 1206, 1400, and 1324 at the end of the three preceding months, had risen again to 1656 at the end of last month; the weekly admissions averaged 261, against 162, 200, and 159 in the three preceding months. The prevalence of diphtheria showed a considerable increase over that recorded in the previous month; this disease was proportionally most prevalent in Hampstead, Islington, Finsbury, Bermondsey, Greenwich, and Woolwich. There were 892 diphtheria patients under treatment in the Metropolitan Asylums Hospitals at the end of last month, against 771, 839, and 720 at the end of the three preceding months; the weekly admissions averaged 138, against 102, 120, and 85 in the three preceding months. Enteric fever was very much more prevalent than in any other recent month; the greatest proportional prevalence of this disease was recorded in Hammersmith, Fulham, St. Pancras, Finsbury, the City of London, and Lewisham. The Metropolitan Asylums Hospitals contained 155 enteric fever patients at the end of last month, against 33, 47, and 56 at the end of the three preceding months; the weekly admissions averaged 39, against 6, 9, and 10 in the three preceding months. Erysipelas was proportionally most prevalent in Hackney, Finsbury, Shoreditch, Bethnal Green, Stepney, Southwark, and Deptford. The 18 cases of puerperal fever notified during the month included 4 in Southwark, 3 in Stepney, and 2 each in Hackney and Lewisham. The 19 cases notified as cerebro-spinal meningitis included 4 in St. Pancras, 4 in Battersea, and 2 each in Islington, Hackney, Shoreditch, and Lambeth.

The mortality statistics in the table relate to the deaths of persons actually belonging to the several boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided; the death-rates from all causes are further corrected for variations in the sex- and age-constitution of the populations of the several boroughs. During the four weeks ending Sept. 30th the deaths of 5537 London residents were registered, equal to an annual rate of 16·8 per 1000 of the population, against 11·7, 12·4, and 18·9 per 1000 in the three preceding months. The death-rates last month ranged from 9·1 in Hampstead, 11·3 in Stoke Newington, 12·9 in Wandsworth and in Lewisham, and 13·1 in Paddington to 20·5 in Finsbury and in Bethnal Green, 21·2 in Southwark, 23·7 in Shoreditch and in Poplar, and 24·0 in Bermondsey. The 5537 deaths from all causes included 24 from measles, 13 from scarlet fever, 46 from diphtheria, 57 from whooping-cough, 27 from enteric fever, and 1369 among children under two years of age from diarrhœa and enteritis. The lowest death-rates from these diseases in the aggregate were recorded last month in the cities of London and Westminster, in Hampstead, Stoke Newington, Hackney, and Holborn; and the highest rates in Shoreditch, Bethnal Green, Poplar, Southwark, Bermondsey, and Deptford. The 24 deaths from measles were 23 below the corrected average number in the corresponding period of the five preceding years; of these 24 deaths, 7 belonged to Southwark, 4 to Bethnal Green, and 4 to Stepney. The 13 fatal cases of scarlet fever showed a decline of 16 from the corrected average number, and included 2 in Fulham, 2 in St. Marylebone, 2 in Islington, and 2 in Southwark. The 46 deaths from diphtheria were slightly below the average number in the corresponding period of the five preceding years; the greatest proportional mortality from this disease was recorded last month in Hammersmith, Hampstead, Islington, Finsbury, and Greenwich. The 57 fatal cases of whooping-cough showed a decline of 7 from the corrected average number; this disease was proportionally most fatal in Stoke Newington, Bethnal Green, Poplar, Bermondsey, Lambeth, Deptford, and Greenwich. The 27 fatal cases of enteric fever were 6 above the corrected average number in the corresponding period of the five preceding years; of these 27 deaths, 5 belonged to Finsbury, 4 to Camberwell, 3 to St. Pancras, and 2 each to Fulham, Islington, Southwark, and Wandsworth. The 1369 deaths from diarrhœa and enteritis among children under two years of age showed a marked decline from the exceptionally high number recorded in August; among the metropolitan boroughs the mortality from this cause was proportionally greatest in Shoreditch, Bethnal Green, Stepney,

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING SEPTEMBER, 1911.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1911.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.‡									Deaths from all causes.	Death-rate per 1000 living.†
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.		
LONDON	**4,522,628**	—	**1081**	**606**	—	**259**	**6**	**18**	**415**	**19**	**2404**	**6·9**	—	**24**	**13**	**46**	**57**	**27**	**1369**	**1536**	**4·4**	**5537**	**16·8**
West Districts.																							
Paddington	142,541	—	25	3	—	6	1	—	7	—	42	3·8	—	1	—	—	1	1	35	38	3·5	135	13·1
Kensington	172,296	—	11	14	—	5	—	—	6	—	36	2·7	—	—	—	1	1	—	34	36	2·7	183	14·9
Hammersmith	121,837	—	18	13	—	12	—	—	7	—	50	5·3	—	—	—	3	—	1	31	35	3·7	123	13·7
Fulham	153,726	—	32	17	—	9	2	1	11	—	72	6·1	—	1	2	1	1	2	60	67	5·7	199	17·7
Chelsea	66,218	—	11	8	—	2	—	—	4	—	25	4·9	—	1	—	1	1	—	13	16	3·1	80	16·3
City of Westminster	159,709	—	26	8	—	5	1	—	5	1	46	3·8	—	—	—	—	—	—	24	24	2·0	155	14·2
North Districts.																							
St. Marylebone	117,844	—	70	9	—	7	—	1	15	—	102	11·3	—	—	2	1	1	—	24	28	3·1	135	15·9
Hampstead	85,599	—	7	18	—	1	—	—	3	—	29	4·4	—	—	—	2	—	—	5	7	1·1	53	9·1
St. Pancras	218,031	—	51	38	—	25	—	—	17	4	135	8·1	—	—	1	3	3	3	39	49	2·9	257	16·1
Islington	327,234	—	97	71	—	14	—	1	18	2	203	8·1	—	1	2	6	3	2	99	113	4·5	420	17·4
Stoke Newington	50,669	—	10	7	—	3	—	—	3	—	23	5·9	—	1	—	—	2	—	3	6	1·5	42	11·3
Hackney	222,674	—	72	22	—	5	—	2	43	2	146	8·5	—	—	—	1	2	1	39	43	2·5	243	14·8
Central Districts.																							
Holborn	49,084	—	4	8	—	1	—	—	3	—	16	4·2	—	—	—	1	—	—	8	9	2·4	58	16·6
Finsbury	87,639	—	22	18	—	59	—	—	21	—	120	17·8	—	—	—	2	1	5	34	42	6·2	133	20·5
City of London	19,475	—	5	2	—	2	—	—	—	—	9	6·0	—	—	—	—	—	—	1	1	0·7	18	13·2
East Districts.																							
Shoreditch	111,284	—	48	20	—	6	—	1	18	2	95	11·1	—	1	1	2	2	—	64	70	8·2	193	23·7
Bethnal Green	128,247	—	40	15	—	6	—	—	29	—	90	9·1	—	4	—	1	3	—	66	74	7·5	200	20·5
Stepney	279,560	—	62	29	—	13	—	3	41	—	148	6·9	—	4	1	1	2	—	122	130	6·1	401	19·5
Poplar	162,290	—	44	30	—	6	1	1	22	—	104	8·4	—	—	—	2	6	1	91	100	8·0	286	23·7
South Districts.																							
Southwark	191,595	—	48	17	—	11	—	4	32	—	112	7·6	—	7	2	2	3	2	91	107	7·3	299	21·2
Bermondsey	125,840	—	22	26	—	3	—	—	12	—	63	6·5	—	—	—	1	3	1	73	78	8·1	226	24·0
Lambeth	298,032	—	63	40	—	8	—	—	13	2	126	5·5	—	1	—	4	6	1	79	91	4·0	351	15·9
Battersea	167,765	—	44	8	—	8	—	—	13	4	77	6·0	—	—	1	—	—	1	47	49	3·8	178	14·8
Wandsworth	313,389	—	71	22	—	6	1	1	12	1	114	4·7	—	—	—	2	5	2	58	67	2·8	294	12·9
Camberwell	261,407	—	48	51	—	13	—	—	19	—	131	6·5	—	—	—	4	3	4	79	90	4·5	314	16·3
Deptford	109,475	—	44	12	—	5	—	—	20	—	81	9·6	—	1	—	2	5	—	50	58	6·9	157	19·7
Greenwich	95,982	—	26	25	—	1	—	1	8	—	61	8·3	—	1	—	1	3	—	38	43	5·8	125	17·4
Lewisham	161,677	—	28	29	—	10	—	2	6	1	76	6·1	—	—	1	2	—	—	31	34	2·7	154	12·9
Woolwich	121,509	—	32	26	—	5	—	—	7	—	70	7·5	—	—	—	—	—	—	31	31	3·3	125	14·3
Port of London	—	—	—	—	—	2	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup. † The death-rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard. ‡ Deaths from "typhus fever" and "other continued fevers" are not now distinguished in the Registrar-General's weekly returns; these two columns are therefore omitted from the Table.

Poplar, Southwark, Bermondsey, and Deptford. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases (excluding diarrhœa) was 19·7 per cent. below the average.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Staff-Surgeon: R. W. B. Hall to the *Victory*, additional, for disposal. Surgeon: C. C. Macmillan to the *Pegasus*, on commissioning.

ROYAL ARMY MEDICAL CORPS.

Surgeon-General G. D. Bourke, C.B., K.H.P., Principal Medical Officer of the Irish Command, has been appointed a member of the corporation of the Royal Hibernian Military School. Lieutenant-Colonel F. W. G. Gordon-Hall from Glasgow, has embarked on the s.s. *Rohilla* for a tour of service in South China. Lieutenant-Colonel J. C Morgan has on promotion been appointed to the medical charge of the military hospital at Glasgow. Lieutenant-Colonel A. A. Sutton, D S O., has taken up duty as senior medical officer on the West Coast of Africa with the military forces. Lieutenant-Colonel C. J. Macdonald has embarked for a tour of duty in North China. Lieutenant-Colonel R. Kirkpatrick, C.M.G., commanding the Seventh Company of the Royal Army Medical Corps and in medical charge of the Military Hospital at Devonport, has been placed under orders to proceed abroad during the ensuing trooping season. Lieutenant-Colonel W. C. Beevor, C.M.G., commanding the station hospital at Bangalore, has been appointed to the Medical Charge of the transport s.s. *Rewa*, leaving Bombay for Southampton. Major A. L. A. Webb has arrived at Sierra Leone for a tour of duty on the West Coast of Africa. An exchange of stations on the foreign service roster has been approved between Major C. R. Evans and Captain J. A. Hartigan; the former has accordingly taken up duty at Malta, and the latter will proceed to North China on the termination of his leave. Major F. M. Parry has been placed under orders for a tour of service at Mauritius during the ensuing trooping season. Major G. St. C. Thom, commanding the station hospital at Subathu, Simla Hills, has been transferred to Murree. Major H. K. Palmer, at present serving at the station hospital, Colaba, Bombay, has been granted six months' leave of absence home from India. Major A. H. Safford, specialist in bacteriology, has been appointed to take charge of the Research Laboratory at Fyzabad. Captain J. H. Graham has been ordered to Ireland for duty, and on arrival will be posted to the Cork District. Captain N. Low, company officer of the Royal Army Medical Corps Detachment at Belfast, has been selected for appointment to the Belfast, University Contingent, Officers Training Corps from Oct. 20th to Nov. 23rd, and Captain H. C. Gray, clinical pathologist at the Royal Infirmary, Phœnix Park, Dublin, has been similarly selected for attachment to the Dublin University (Trinity College) Contingent from Oct. 18th to Nov. 21st. Captain E. W. Powell has taken over charge of the Brigade Research Laboratory at Aden. Captain A. D. Frazer has been instructed by the War Office to join for duty in Ireland, and will be posted to the Belfast District on arrival. Captain R. B. Black, on termination of the promotion course at the Royal Army Medical College, has been appointed to the Egyptian Army with the local rank of Bimbashi. Captain P. G. Hyde, on the closing of Rathmore Camp, has joined at Dublin. Captain R. L. V. Foster and Captain D. S. Skelton, from the Royal Army Medical College, have been posted to Bodmin and York respectively. Captain D. P. Johnstone, from Brackenbir Moor, has been appointed to Manchester. Captain R. K. White has been transferred from Tipperary to Kinsale. Captain J. W. S. Seccombe, in charge of the Cantonment General Hospital at Nasirabad, has been detailed for duty on board the s.s. *Rewa*, leaving Bombay for Southampton. Captain A. T Frost, specialist in dermatology and venereal diseases at the Royal Infirmary, Phœnix Park, Dublin, has been detailed for duty with the Royal College of Surgeons Contingent, Officers Training Corps, from Oct. 18th to Nov. 21st. Captain R. L. Argles, staff surgeon at Ferozepore and in medical charge of the Ordnance Department, has been granted one year's extension of his Indian tour of service by H E. the Commander-in-Chief in India. The following Captains have been selected by the War Office to attend the courses of instruction for promotion to the rank of Major to be held at the Royal Army Medical College, London, commencing on Nov. 1st next: C. J. Thomson (Edinburgh), A. B. Smaliman (Woolwich), W. F. Ellis (Bradford), G. H. J. Brown (Rhayader Camp), T. E. Harty (Guildford), D. P. Watson (Preston), G. A. Kempthorne (Glencorse), N. E. Dunkerton (Woolwich), R. T. Collins (Woolwich). A. C. Osburn (Colchester), L. Bousfield (Crownhill), J. H. Douglass (Dublin), R. R. Lewis (Aldershot), A. L. Otway (Belfast), C. H. Turner (Newbridge), and W. F. H. Vaughan (Cosham).

INDIAN MEDICAL SERVICE.

His Excellency the Governor of Bombay in Council has been pleased to appoint Lieutenant-Colonel C. H. L. Meyer to be principal of the Grant Medical College in Bombay in succession to Lieutenant-Colonel H. P. Dimmock, who has retired from the service. Major H. G. Melville, Bengal Presidency, has arrived home on leave of absence from India. Major F. A. Smith has been appointed Agency Surgeon to the Eastern States of Rajputana on his return from leave. Major G. McI. C. Smith has been selected to officiate as Professor of Materia Medica at the Medical College, Lahore, during the absence on leave of Major H G. Melville. Major P. St. C. More has been granted 20 months' combined leave from India. The services of Major C. H. Bowle-Evans, Bengal, have been placed at the disposal of H.E. the Commander-in-Chief in India. Major T. Stoddart has taken up duty as Civil Surgeon at Mogok in succession to Captain H. S. Matson, transferred to be Civil Surgeon at Taunggyri. Major A. Gwyther has been selected for appointment as Civil Surgeon of Howrah during the absence of Lieutenant-Colonel A. H. Nott. Captain M. H. Thornely has been transferred from Manbhum to Shahabad as civil surgeon, in succession to Major T. H. Delany. Captain A. C. W. Young has been appointed to hold charge of the Bacteriological Research Laboratory in the Bannu Brigade by His Excellency the Commander-in-Chief in India. Captain W. S. Nealor has taken up duty as medical officer of the 123rd Outram Rifles. Captain K. S Singh has been granted one month and eleven days' privilege leave of absence. The services of Captain A. P. G. Lorimer have been placed temporarily at the disposal of the Government of Madras. Captain R. H. Bott, specialist in advanced operative surgery to the Fourth (Quetta) Division, has taken up duty as Professor of Midwifery at the Lahore Medical College during the absence on furlough of Major R Heard. Captain J. W. Little has been selected by the Foreign Department as agency surgeon to fill the vacancy caused by the transfer of Major C. H. Bowle-Evans. Captain S. H. Bingess has been appointed a Specialist in Advanced Operative Surgery. The services of Captain J. Smalley have been placed temporarily at the disposal of the Government of Bombay. Captain A. H. Proctor has taken up duty as Resident Surgeon at the Medical College Hospital in Calcutta during the absence on leave of Captain E O. Thurston. Captain N E. Griswood has been transferred to Delhi as District Plague Medical Officer. Lieutenant R L. Gamlen has left Lahore for Calcutta in medical charge of the 32nd Sikhs *en route* to join the Abor Expeditionary Field Force.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Captain Ernest U. Bartholomew resigns his commission (dated Oct. 21st, 1911). Lieutenant John Fraser is confirmed in his rank.

TERRITORIAL FORCE.

Infantry.

4th Battalion, The Cheshire Regiment: Surgeon-Captain John B. Yeoman resigns his commission (dated Oct. 21st, 1911).

Royal Army Medical Corps.

3rd West Lancashire Field Ambulance, Royal Army Medical Corps: The undermentioned officers to be Captains (dated Oct. 1st, 1911):—Lieutenant Augustus A.W. Merrick, Lieutenant Ernest Knight, and Lieutenant Norman S. Jeffrey.

1st London (City of London) Field Ambulance, Royal Army Medical Corps: Lieutenant Edward L. Rowse to be Captain (dated Oct. 1st, 1911).

2nd Welsh Field Ambulance, Royal Army Medical Corps:

* Including membranous croup. † The death-rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard. ‡ Deaths from "typhus fever" and "other continued fevers" are not now distinguished in the Registrar-General's weekly returns; these two columns are therefore omitted from the Table.

Arthur Cecil Devereux to be Lieutenant (dated July 11th, 1911).

Attached to Units other than Medical Units.—Lieutenant Frank W. Burn to be Captain (dated July 3rd, 1911). Captain James Andrew resigns his commission (dated Oct. 21st, 1911).

For attachment to Units other than Medical Units.—Lieutenant Henry Robinson, from the London Mounted Brigade Field Ambulance, Royal Army Medical Corps, to be Lieutenant (dated Sept. 21st, 1911).

THE NAVY LEAGUE AND THE PREVENTION OF TUBERCULOSIS.

At the annual meeting of the Navy League, which was held under the presidency of Mr. Geoffrey Drage at the Royal United Service Institution on Oct. 21st, a resolution, proposed by Lady Fremantle, to the effect that the establishment of sanatoriums for consumptive naval invalids is eminently desirable, and that the Navy League undertakes to do everything possible to promote a scheme having this object in view, was adopted.

MEDICAL STORES IN THE PRUSSIAN ARMY.

No. 47 of the Military Medical publications[1] issued by the Prussian War Ministry, has lately reached us. First there is a description of the large storehouse itself, its machinery-installations, and the plan for expanding it in war time. Then the various branches of the work done here are successively detailed. The store department administers the authorised establishment of medical equipment for the Prussian army, and whatever other similar stores may be assigned to it. It distributes stores to the various Prussian army corps as they may require them, equips new depôts when ordered and also those on the lines of communication not supplied by their provincial authorities. When mobilisation is over it takes back stores from those depôts that are to be reduced. It examines new or altered patterns of equipment, communicating its conclusions to the depôts of the other army corps, and, if necessary, to the War Ministries of Bavaria, Saxony, and Würtemberg. It conducts original researches, and tests in its laboratory and workshops all modern improvements in material for the care of the sick, and advises, after discussion with the military hospitals of Berlin, whether these will be of advantage to the army. Finally, it teaches medical officers, informing them of the latest advances in equipment, and how they are to use and care for the patterns issued; it trains medical storekeepers and instructs volunteer "Red Cross" *personnel*, also occasionally foreign officers. On its staff are a lieutenant-colonel of the Army Medical Corps, a senior dispenser, an artificer, and a staff sergeant. First-aid dressings are made here and bandages. In each first-aid packet is a gauze compress and bandage impregnated with sublimate solution (3 per 1000, perhaps to be replaced by cyanide). The bandage is 4 m. by 7 cm. (4½ yards by 2¾ inches). The compress is 18-fold and measures 5 by 2¾ inches. It is sewn on to the bandage, a 10-inch strip being left free to begin with. They are then all rolled up together, according to pattern, wrapped in calico and tied with a thread. Directions for use are printed on a paper affixed with turpentine-starch paste. The date and the order, "To open pull off the thread," are stamped on the outside. These packets are put up in boxes of 300 and are then sterilised, first for an hour at 105° C., and then for two hours following in current steam. A woman can make 100 a day, and some 400,000 or 500,000 are turned out in a year. The silk bought is analysed to make sure its chemical constitution is such as to promise stability; it must be sufficiently inextensible, and its breaking strain must be in due relation to its diameter, which is measured under a microscope. Silk threads are put up in glass tubes having a cotton-wool filter at each end. They are first sterilised, then dried, metal capsules are adjusted over the ends, and they are packed in dated cardboard boxes. Catgut is similarly tested, and for sterilisation is first boiled five hours in ether, dried for 48 hours in a water oven at 75° C. and then in a Cumol oven at 156° C. Rubber goods are analysed to ensure a sufficient percentage of india-rubber: tubing must have 60 per cent. except drainage tubing, which need only have 50 per cent. Indiarubber rings must not be used to seal up preserved provisions, as weakly acid solutions dissolve from them slowly some of the barium and zinc which they contain. Rubber plasters are made in this depôt. They remain serviceable longer than those usually sold, and besides they are known to contain no substance that can harm a wound. Tinned mess utensils are examined to see they have been made according to law. Absorbent cotton is stated to be more absorbent if it contains some free fatty acid, but not more than ½ per cent. is allowed. Endeavours have been made to find some way of preventing the rusting of steel instruments, so far without success. This is a very interesting pamphlet which we commend to all officers in charge of stores. They will find it of great value.

[1] Das Königliche Hauptsanitätsdepot in Berlin. Berlin: A. Hirschwald. Pp. 38. 3 plates and 24 illustrations. Price 2 marks.

THE NEW NAVAL MEDICAL SERVICE REGULATIONS.

In connexion with the revised regulations for the Naval Medical Service directions have been issued by which surgeons under eight years' seniority, who have passed the necessary examination for staff-surgeon, may accept the new regulations, without prejudicing any chance of special promotion which they may possess under the old regulations, on account of appointments held in civil hospitals prior to their entry into the Navy. Surgeons under eight years' seniority who have already passed the examination for staff-surgeon under the old conditions will not be permitted to be re-examined under the new conditions.

DEATHS IN THE SERVICES.

Colonel W. Pleace Warburton, C.S.I., late I.M.S., at Lowestoft, recently, aged 68. He joined the Indian Medical Service in 1866, and for the greater part of 33 years' service he was engaged in administrative work. For some time he was medical officer to the Raja of Kapurthala, and in 1894 became Principal Medical Officer and Sanitary Commissioner of Assam. Later he was appointed Inspector-General of Civil Hospitals in the United Provinces. He recently vacated the post of Superintendent of the Edinburgh Royal Infirmary, a position which he had held since 1899.

Inspector-General of Hospitals and Fleets John Breakey, R.N. (retired), on Oct. 21st. He was appointed surgeon in 1854, staff-surgeon in 1863, fleet-surgeon in 1876, deputy inspector general in 1882, and inspector-general in 1886. He was assistant surgeon of the *Penelope* during the Russian war in the Baltic in 1854, and was present at the bombardment of Bomarsund (Baltic medal). He also served in the China war of 1857–58 (China medal). In 1887 he was appointed inspector-general of Haslar Hospital. He retired in 1889.

The King has given to Captain Geoffrey Wallace Grainger Hughes, Royal Army Medical Corps, His Majesty's Royal licence and authority to accept and wear the insignia of the Fourth Class of the Imperial Ottoman Order of the Medjidieh, which has been conferred upon him by His Highness the Khedive of Egypt.

Lieutenant-Colonel Sir R. Havelock Charles, Serjeant-Surgeon to the King, will accompany the King and Queen on their Indian tour. Their Majesties' Indian suite will include Lieutenant-Colonel Bird, I.M.S., as extra surgeon.

Major Gilbert, I.M.S., has been appointed Surgeon to the Governor-Designate of Madras, Sir Thomas Gibson-Carmichael.

DONATIONS AND BEQUESTS.—Under the will of the late Mr. Daniel Myers the London Hospital will receive £1000 for the endowment of a bed in memory of the testator's wife. By the same will £500 are bequeathed to Guy's Hospital and a like sum to the Jews' Hospital and Orphan Asylum, West Norwood, and £300 each to the Jews' Deaf and Dumb Home; the Home and Hospital for Jewish Incurables, Tottenham; the Metropolitan Hospital, Kingsland-road; the North-Eastern Hospital for Children; the East London Hospital for Children; the Hospital for Sick Children, Great Ormond-street; the City of London Hospital for Diseases of the Chest; the Cancer Hospital; the Royal Free Hospital, Gray's Inn-road; the Middlesex Hospital; University College Hospital; St. Mary's Hospital, Paddington; and the Poplar Hospital; and £200 each to the Metropolitan Convalescent Institution and the Baroness de Hirsch Convalescent Home, Hampstead Heath.—An anonymous donation of £500 has been received by the treasurer of the Bristol Eye Hospital.—The Middlesex Hospital Cancer Charity has received from Mr. and Mrs. Richard R. Hollins a further donation of £100 for the maintenance of the "Richard Hollins" Cancer Research Scholarship.

Correspondence.

"Audi alteram partem."

THE NATIONAL INSURANCE BILL.

To the Editor of THE LANCET.

SIR,—It is becoming more evident every day that our profession is to be not merely revolutionised but victimised. The Chancellor is acting with perfect straightforwardness in emphasising the two plain offers he is making to the public—viz.: (1) 9*d*. for 4*d*.; and (2) the best of doctoring in *all* illnesses without any bills to pay.

We may safely leave to politicians to consider the arithmetic of his first offer. The second only concerns us, and the prominence always given to it in his fascinating popular addresses shows that he attaches very great importance to it as a consideration in voting, and as an inducement to swallow his gigantic Bill whole. We as a profession are bound to examine carefully the *finance* of this offer, which touches us so closely, and it is our duty, as the interested parties, to follow the Chancellor's example by translating it into those terms of currency which will at once explain to the working man the gigantic money value of the boon he is offering on behalf of our profession, and at the same time enable ourselves and the public to understand its true cost, which must be met either by our profession or by the public purse.

Remembering, as its author has clearly indicated, that his scheme is ultimately to be extended to the entire family (say averaging five persons), what is his offer? He says in effect, "Not only will I give you 9*d*. for 4*d*., but I will also give you in medical aid, for 1*d*. to 5*d*. a week, what you have hitherto paid 1*s*. to 5*s*. for." We may fairly average up the annual doctor's bill, at current rates, of a householder earning £160 a year at from £2 12*s*. to £13 per annum, according to the amount of serious sickness occurring. This figure may probably for the future under the Bill be put far higher, for it is not the hitherto average bill incurred for serious sickness only that is to be paid, but a far larger account for attendance in *all* illnesses, great or small; and it is the small and numerous illnesses which under his proposals will be by far the largest total item in the bill. Now, why has he not, so far, put this offer also in plain figures?

First, because the sum is so incalculable that it cannot be estimated in advance or put in nutshell form. Second, because the sum is so gigantic that it cannot be provided by Parliament, and he has therefore arranged that it is to be provided by our profession, in sweat and toil, through its acceptance of a system of contract *per capita* payment; in effect, this badly financed scheme requires underwriting, and *we* are to underwrite the gigantic insurance risks of the Chancellor's experiment. Payment per attendance for services rendered, which has hitherto been the very bedrock of our free profession, has been scouted by politicians and even shirked by some of ourselves, *solely* because it does not fit in with the Chancellor's promises and the Parliamentary Budget. It is freely granted that it does not, owing to the inconceivable extravagance of those promises. But this leaves our profession on the horns of no dilemma save this: of either saving the Chancellor's reputation at our own expense in incessant sweated and degraded work, or of washing our hands honestly of his Bill. Accepting the dilemma, which alternative do we elect?

Our leaders (according to the most far-seeing observers in your columns) have hardly emerged with credit from the first round of the fray in which they deliberately elected to tackle the Chancellor on his own chosen ground with their hands tied behind them by the so-called "principles" of his Bill. Is it not time for those of us—I believe an overwhelming majority—who intend to stand by the present free basis of our profession *at all costs* to say so openly? *I hereby declare that on no consideration will I accept the transforming of my practice into a contract per capita basis.* I invite you, Sir, to open your columns to receiving the names of those who adhere to the above declaration. Once a beginning is made a few hundreds of declared adherents—the more the stronger—will give heart to our whole profession, and by establishing a vanguard of stalwarts strengthen the hands of our "negotiators"; and, what is of far more importance, enlighten public opinion, both in and out of Parliament, as to our real intentions—viz., to stand inflexibly by the old flag of freedom under which we have hitherto lived secure, and which cannot fall save by our own acquiescence. The reasons for the faith and determination that are in certain of us are so numerous, and the aspects of the question so many sided, that it would be impossible to elaborate them here. Suffice it to say that they have, one and all, been convincingly demonstrated in most able letters to the press; and that they are, one and all, based not merely upon private interests, singly or as a profession, not merely upon ordinary justice and freedom of contract, upon ordinary relations of work to pay, but fundamentally upon the real interests of the public and of the poor, when these interests are seriously examined without political or electoral party bias.

Many members of the medical profession remain entirely unconvinced by the able but unpractical arguments raised by some few idealists in our profession in favour of a universal State medical service. These arguments have naturally been used by the Chancellor's adherents as in some measure conferring the approval of our profession on his scheme for substituting a universal contract system for the free practice under competitive conditions which ought to be adhered to without compromise. This *per capita* system is fundamentally immoral, dishonest, and demoralising to both doctor and patient.

Those who think in this manner in no way set themselves against any reasonable plan of enlisting their aid in a scheme of national insurance for the poor. But this is not the time or place for elaborating proposals, based on *totally different principles* from those of the present Bill, which cannot by any ingenuity be amalgamated or engrafted on that Bill. We do not, under any circumstances, intend to try to pour new wine into old bottles. Nor do we intend to allow our interests to be destroyed by the passing of the Bill in a hurry in a month's autumn session. Why should we? The present is, in all probability, the psychological moment which will make or mar us; it is manifest to all who discern the signs of the times in politics that the present is the moment when our intentions should be honestly declared.

Will you, as a medical statesman, take this opportunity of gauging the opinion of the profession by inviting the signatures of all who agree with my declaration, so as to form at least a body of declared and deliberate intention which the interests of the public require should become known?

I am, Sir, yours faithfully,

Osmotherly, Northallerton, Oct. 20th, 1911. H. B. LUARD.

*** We have from the beginning deplored the acceptance by the medical profession of the incalculably wide extension of the contract system proposed under the National Insurance Bill. Under this system much harm has already been done to professional and scientific work. But it is understood that a majority of the medical profession has given adherence to the principle and now only remains in doubt whether the terms upon which that adherence has been promised can be obtained. Were this not so, we should consider it even now not too late to urge on our readers the dangers of contract practice.—ED. L.

To the Editor of THE LANCET.

SIR,—The promoters of the National Insurance Bill seem to have decided that the simplest way to deal with the medical profession is to ignore its claims; the Bill is to be rushed through Parliament, and the Government will take its chance of finding sufficient medical men to make a start with the work. Unfortunately, the profession has missed a great opportunity of refusing absolutely to recognise the contract system; but we can save the situation even now if we will only name our terms and stick to them.

The people are promised adequate medical attendance under the Bill. Now no professional man should be expected, except as an act of charity, to see a patient and supply drugs for less than half-a-crown each visit or

consultation. If we take eight as the average number of visits and consultations per annum for each person, £1 a year would be the corresponding remuneration. If then there must be a capitation fee let us fix it at 20*s.*, and not a penny less. "Absurd on the face of it" will be the reply. Quite so; in other words the Act can only be worked as a colossal charity financed by ourselves. We can also refuse to give way on the £2 a week income-limit. If we adhere resolutely to these two demands the Bill will, it is true, be unworkable, but the responsibility will not rest with us.

I am, Sir, yours faithfully,

EDWIN SMITH, M.D. Lond., Barrister-at-Law,
Lecturer on Forensic Medicine at St. Thomas's Hospital.

London, S.W., Oct. 24th, 1911.

To the Editor of THE LANCET.

SIR,—There is one point of importance in connexion with the Insurance Bill which, so far as I am aware, has not been raised, and that is the responsibility for the treatment of venereal diseases. Section 13 (4) of the Act, referring to diseases or disablement caused by misconduct of the person claiming the benefit, expressly states that whatever else be withheld, "such person shall nevertheless continue to be entitled to medical benefit." Unless the exact position of persons suffering from venereal diseases is settled in black and white before the Act is passed, the medical profession will find itself in a difficult position at a later date.

It is hardly fair to the profession that the treatment of venereal diseases, spread over a long period as it often must be, should be included in the contract, and yet it is of paramount importance to the public that such diseases should be efficiently treated. In the case of tuberculosis a considerable sum of money is set aside for its prevention and cure, and the responsibility for an excessive amount of certain diseases can be brought home to those responsible for it—Clause 46. Sooner or later the question is sure to be raised whether the contributions of the well-behaved are to be appropriated for the benefit of those who contract diseases while in pursuit of their own vicious pleasures. Then we may be faced by an outcry for prevention of venereal diseases by regulation or otherwise.

I am, Sir, yours faithfully,

London, S.W., Oct. 24th, 1911. A. GORDON WILSON.

To the Editor of THE LANCET.

SIR,—I would suggest that all medical men holding club appointments which at present are open to anyone to join should on a fixed date give notice to terminate their appointments by Dec. 31st. Otherwise there may be a way to pass the Insurance Bill and leave the clubs alone to find their doctors. Hence there would be a rush of well-paid artisans defeating our very chief object. This step would also assure the outside world that we do not intend to be defeated. We should, before re-accepting club appointments, stringently act on our united points and remove from our list any person violating our requirements. Even if here and there we have defections we can hold our own easily in the main. Mr. Lloyd George, I suspect, will drop the medical part of his Bill and leave the clubs to fight it out. Unless we resign we must accept unfit persons who will pour in on the Bill becoming law.

I am, Sir, yours faithfully,

Ewyas Harold, Hereford, Oct. 23rd, 1911. LESLIE THAIN.

To the Editor of THE LANCET.

SIR,—In the letter of Mr. A. Benthall on the above subject which you publish in your issue on Oct. 14th, p. 1093, he says, among other things, that "the suggestion of payment by fee for each attendance is a delightful dream, but utterly Utopian and out of the range of practical politics." I should like to ask if Mr. Benthall has ever heard of the National Deposit Friendly Society where the "dream" is put into very practical politics. If not, I should advise him to send for a copy of the rules of that society.

I am, Sir, yours faithfully,

Bangor, Oct. 22nd, 1911. RICHARD WILLIAMS.

THE RELATION OF THE ORGANIC PHOSPHORUS CONTENT OF VARIOUS DIETS TO DISEASES OF NUTRITION, PARTICULARLY BERI-BERI.

To the Editor of THE LANCET.

SIR,—Adverting to an annotation which I contributed to THE LANCET of Oct. 14th, and to an objection to one of my statements raised by Dr. H. Fraser in his letter published in your columns of Oct. 21st, I beg to explain that in the process of revising my original communication I inadvertently deleted the words "and aleurone layer" after pericarp. The statement was intended to read: "The disease as it occurs in the Far East, is now generally recognised to be due to a dietary of white rice from which the pericarp and aleurone layer (containing the bulk of the phosphates and other salts) have been removed in the process of 'polishing' or milling." I regret that the unfortunate omission of the words above mentioned led to the mistake pointed out by Dr. Fraser. Like all others interested in the subject of beri-beri, I am well acquainted with his published works and with the valuable investigations which he and his collaborator Dr. Stanton have made, and which have done so much to elucidate the etiology of this disease.

Whether, as some contend, the absence of a sufficiency of organic phosphorus in the dietary is the essential cause of beri beri, or whether, on the other hand, it is due to the presence or absence of some subtle compound in the diet as yet unknown, it can nevertheless be affirmed without hesitation that, thanks largely to the work of Fraser and Stanton, the disease can be prevented where rice is the staple article of diet, if care be taken to supply a kind from which certain essential qualities have not been removed by a process of over-milling.—I am, Sir, yours faithfully,

Oct. 23rd, 1911. THE WRITER OF THE ANNOTATION.

To the Editor of THE LANCET.

SIR,—As the chemical part of the work on this subject, recently published by Dr. Simpson and Mr. Edie, was carried out in the University of Liverpool and I have followed the whole of it, I may perhaps be allowed to reply to some of Dr. Fraser's criticisms in THE LANCET of Oct. 21st.

The monograph by Schaumann criticised by Dr. Fraser is, in my opinion, one of the finest masterpieces of scientific work—collating, as it does, the labours of very many workers—which I have ever seen in any language, and it would be a great pity if any simple error, such as ascribing the active principle to the phospho-protein group, should deprive Schaumann of the credit of clearly and emphatically pointing out the close relationships of a large group of nutritional disorders. The study of these diseases is of national importance not only to India and the East, but to our own nation and all Western civilisation. As early as 1896 Eijkman in Batavia had shown that fowls fed entirely on polished rice suffered and died from polyneuritis. Grijns in 1908 confirmed this, and Holst and Frohlich in Christiania in a lengthy series of researches on pigeons and guinea-pigs clearly showed that beri-beri and scurvy arose from the restrictions of diet.

Bradden in India first pointed out that tropical beri-beri was prevalent in those Eastern tribes and races, e g. Chinese, who used a highly milled rice as their staple diet, but did not occur in races such as the Tamils, who cured their rice in such a way that the pericarp and sub pericarpal layers were not removed from the grain in the process of milling. There is no question of the value of the experimental confirmation of this obtained in asylums and in gangs of compound labourers in India by Fraser and Stanton, and others. The workers here have highly appreciated their work, which attracted the attention of Professor Ross and formed the starting point of the experimental researches initiated in consequence and still proceeding.

Dr. Fraser chooses to be very severe when he states that our experiments here add nothing to our knowledge of the subject, but we did think that we had served some good purpose in drawing public attention in England to the probability that the problems of nutrition of infants and children were closely allied in type to beri-beri. We still persist in believing that the experiments of Hill

and Flack, and our own, form a conclusive proof of this position.

In regard to the chemical nature of the substances in the subpericarpal layers which are responsible for the activity we agree with Dr. Fraser that this is a question for the physiological chemist. That the substance is not a protein and does not contain phosphorus has been shown by the extremely interesting and elaborate experiments of the workers of the Bureau of Science of the Government of the Philippine Islands, Messrs. Chamberlain and Vedder. These observers have shown that the active material can be extracted from the rice-meal by alcohol and then dissolved in water. A daily ration of the filtrate, 10 c.c., added to polished rice not only prevented polyneuritis, but cured it after it had been induced. This ration contains only 0·16 milligramme of phosphorus pentoxide, so that it is fairly certain that the active substance is not a phosphorus-containing body. The amount of nitrogen in the filtrate is somewhat greater, being 0·04 per cent., in about 2 per cent. of total solids; this nitrogen would represent (if all protein nitrogen) in the daily ration 0·024 gramme of protein. So that it is extremely unlikely that the active substance is protein in nature.

But this casts no discredit on the views of Schaumann or anyone else. At an earlier date Fraser and Stanton themselves pointed out the close relationship between poverty in phosphorus and neuritis-producing properties in a food. Association of the active substance with organic phosphorus is all that is stated in the paper by Simpson and Edie, who say that: "We hope in a future contribution to give the results of our attempt to isolate the active principle, whether it be one of the organic phosphorus compounds or a substance which associates itself with these in its reactions, as do ferments with nucleo-proteids."

This investigation has been continued and is yielding most interesting results. We have clearly confirmed the results of the observers in the Philippines, and have saved pigeons, almost at the point of dying from polished rice diet, with extracts prepared by their methods, and containing practically no phosphorus and very little nitrogen. We now consider it most probable that the active substance is a glucoside, probably a galactosan, which reduces Fehling solution after, but not before, hydrolysis with acids. Such bodies are already known to exist in the subpericarpal layers and are termed hemi-celluloses by botanical chemists; they also occur in the cell-wall of the yeast plant, which, it will be remembered, is very efficacious in preventing polyneuritis from polished rice, and they are found under the peel of the potato in the layer usually given with striking benefit in infantile scurvy. We have shown that this material in the potato is still active in the treatment of infantile scurvy, even after heating for some hours to 120° C. in the autoclave, in this respect differing from the active material of rice-meal, which is destroyed by prolonged autoclaving, but not by boiling. The comparative thermostability of these active bodies is compatible with a glucosidal nature, but to a large extent against their being protein in character.

I am, Sir, yours faithfully,

BENJAMIN MOORE.

Bio-Chemical Laboratory, The University, Liverpool, Oct. 23rd, 1911.

THE GENERAL MEDICAL COUNCIL AND THE IDENTIFICATION OF REGISTERED PRACTITIONERS.

To the Editor of THE LANCET.

SIR,—It has been observed in a report of the inquest on the body of Mrs. Gorringe in connexion with which reference is made to Mr. Charles Louis Lumley, a practitioner whose name was struck off the Medical Register by order of this Council in 1900, that the coroner, Mr. Troutbeck, is stated to have said: "It was difficult for a doctor to ascertain whether a man, obviously with medical knowledge, was on the Register." If the coroner is correctly reported, he is under a misapprehension.

The preamble of the Medical Act, 1858, begins as follows: "Whereas it is expedient that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners." I am directed to say that the Council is most anxious to carry out the primary duty imposed upon it by this Act, and a similar duty imposed by the Dentists Act, 1878. It is always willing, and indeed anxious, to give information to public officials, to registered practitioners, and to the public in all cases in which there is any doubt as to whether a person is or is not a registered medical practitioner or dentist. Inquiries are constantly made by telegram, by telephone, or in person, and they are always promptly attended to. In consequence of minute differences in names, and of practitioners making use of names or compound names other than those by which they are registered, it is preferable that inquiries should be made in writing; but in cases of emergency they can be made orally, and the public may be assured that all the means at our command will be made use of to afford them the fullest information.

Copies of the Medical Register, which is the only official list of registered practitioners and which can be obtained through any bookseller, are distributed by the Government to coroners, law and county courts, and various public offices. Moreover, every medical practitioner on completing his first registration is entitled to receive a copy from the Council on application.

I am, Sir, yours faithfully,

NORMAN C. KING,

Acting Registrar, General Council of Medical Education and Registration of the United Kingdom.

299, Oxford-street, W., Oct. 19th, 1911.

MEDICAL EQUIPMENT FOR MERCHANT SHIPS.

To the Editor of THE LANCET.

SIR,—It is with great pleasure that we learn of the prominence which you have given to the recommendation of the Departmental Committee of the Board of Trade on "Ships' Medicine Chests," relative to the need for separate and reserved accommodation in merchant ships for members of the crew who have fallen ill or have been injured.

Your very cordial endorsement of this recommendation is most sincerely appreciated by us, and must exercise considerable influence in Government departmental circles. There is, however, one point in connexion with the comments on this recommendation which occurs to us as open to considerable question. In trusting that the Board of Trade will adopt the recommendation, you state that it would involve the provision, *adjacent to the officers' cabins*, of a spare cabin definitely allocated as a hospital and so marked. According to our views a hospital of the kind should be isolated as far as possible, consistent, of course, with it being in every way convenient for the purpose of efficient and proper treatment of those lodged in such a hospital. That it should be "adjacent to officers' cabins" would, on the face of it, appear to be highly inadvisable, as tending all the more to the risks of contagion and infection, whereby those responsible for the safety of a ship would be subjected to very serious danger, for which there does not appear to be any adequate reason whatever. Moreover, officers' cabins nowadays are very rarely lodged in the "after part of a ship," and the provision of ships' hospitals, if this recommendation is adopted by the Board of Trade, as we hope it will be, will necessarily depend on the plans and arrangements of the particular ships, of which there are so many different classes and types in the Mercantile Marine.

We welcome your most cordial agreement with the broad principle involved in this matter, and the adoption of the recommendation would mean that the Board of Trade Committee referred to would have rendered some signal service to humanity.—I am, Sir, yours faithfully,

T. W. MOORE,

Secretary, The Imperial Merchant Service Guild.

Liverpool, Oct. 23rd, 1911.

THE TECHNIQUE OF SALVARSAN INJECTION.

To the Editor of THE LANCET.

SIR,—I was interested in your annotation in THE LANCET of Oct. 14th dealing with the intravenous injection of salvarsan. It has always occurred to me that there must be more risk in the intravenous method, and I have carefully avoided it. My experience of the use of salvarsan now extends to 14 cases, and I have made all the injections deep into the buttock just above and behind the great trochanter in order to avoid the sciatic nerve. Twelve of my cases

were of the resistant type of tertiary syphilis, with marked gummatous, tubercular, and ulcerative lesions. In all these cases the lesions healed or disappeared in the most remarkable manner and within three to six weeks. In no case so far have I given any subsequent mercurial or iodide treatment. A full dose of 0·6 gramme was administered. At first I confined the patients to bed for six days after the injection, but I do not now recognise the necessity, when all has gone well, for confinement to bed for more than two days. There were two instances of the injection having been given in the out-patient room of the hospital, but I asked the medical attendant to kindly see that these men rested quietly at home for two or three days. I also gave orders that they should be taken home very quietly. Both did well and with no untoward symptoms whatever.

I have always used a neutral solution, well stirring it as I draw it into the syringe. To avoid blocking, a wide-bored needle is a necessity. In the large majority of cases there were no complaints of any after local pain, and the complaints made by the majority were comparatively trifling. The skin surface was disinfected with iodine, and the syringe and needles taken straight from the steriliser. One of the 14 cases was that of a secondary syphilide with the primary chancre still in evidence, and the other unaccounted for was a doubtful case of syphilis, a lymphangitis of the lower lip in a young man, which had been treated otherwise unsuccessfully at the London Hospital and by myself at the Royal Berkshire Hospital. Barely two years have elapsed since I injected my first case and some were injected only a few months or a few weeks ago, therefore it is too early to speak of the permanence of the cure; but it is at all events permanent within the above range-limit of time, and all patients so far have been kept under due observation. The solution, or rather emulsion, was injected within half an hour or within a few minutes of its final mixing and testing.

I am, Sir, yours faithfully,

Reading, Oct. 17th, 1911. W. T. FREEMAN.

PRURITUS ANI.

To the Editor of THE LANCET.

SIR,—Apropos of your annotation on Dr. Dwight Murray's paper, will you permit me to record a few observations of my own? I have had occasion to treat or advise many patients suffering from this complaint. X rays and high-frequency currents have generally been followed by temporary cessation of the symptoms, but I have always felt that this may have been due to more methodical cleanliness on the part of the patient during the course of treatment. I have succeeded in cultivating staphylococci, streptococci, and bacilli coli from the anal folds of pruritic patients, but as these bacteria can often be grown from the ani of unaffected persons it seemed hardly logical to adopt vaccine therapy, especially as the following simple treatment is almost always eventually effectual.

Thorough washing of the parts at the earliest opportunity after defæcation. Should the patient's occupation prevent this being done at the time it must be done when dressing for dinner or before going to bed. The parts are then anointed with some simple sterile lubricant such as almond oil. If there is itching, scratching to a moderate extent may be permitted under sterile conditions—i.e., the hands and nails must be absolutely clean. In the early stage of treatment itching may recur during the night, and this may be instantly relieved by the application of a very minute quantity of salicylate of soda.

The anal folds smeared with an imperceptible layer of fæcal matter form an ideal medium for the growth of bacilli of the coli group, all of which are motile. The movement of the bacteria in the neighbourhood of the nerve-endings may well cause itching. In young, healthy people pruritus ani is rare, and possibly the secretions of the sebaceous follicles may here have an adverse influence on the bacilli that find their way through the sphincters. In old people these secretions may become scanty or inert, and this may possibly be an explanation of the frequency of the complaint in such people. Any way, I find that, although the complaint is completely held in check by the treatment I have indicated, this has to be continuous and be carried out as a matter of routine through life.

It seems highly probable that the moderate scratching, with precautions to avoid abrasion of the skin and inoculation with foreign micro-organisms, may not only remove any remaining colonies of bacteria, but may induce slight leucocytosis and the destruction of those bacteria which Dr. Murray thinks penetrate the skin. Scratching is Nature's cure, and there are many parallel instances where natural inclination intelligently guided is found to be the best remedy. The application of the common antiseptics often aggravates the complaint by causing local irritation, and possibly by interfering with the natural physiological processes that make for relief.

I am, Sir, yours faithfully,

Oban, Oct. 21st, 1911. W. D. ANDERSON.

THE THIRD TRIENNIAL CONGRESS OF THE INTERNATIONAL SURGICAL SOCIETY AT BRUSSELS.

(FROM A SPECIAL CORRESPONDENT.)

IN an annotation in THE LANCET of Oct. 21st brief reference was made to the success of this Congress.

Subjects under Discussion.

The subjects chosen for discussion were: (1) Pancreatitis; (2) The Surgery of the Lungs and Pleuræ; and (3) Colitis. These were discussed under the following headings: 1. The Diagnosis of Pancreatitis; Reporter, Dr. Michel (Nancy). 2. The Treatment of Acute Pancreatitis; Reporters, Professor Körte (Berlin) and Dr. Giordano (Venice). 3. The Prevention of Operative Pneumothorax; Reporter, Professor Garrè (Bonn). 4. The Operative Treatment of Pulmonary Emphysema; Reporter, Professor Garrè (Bonn). 5. The Treatment of Purulent Pleurisy; Reporter, Professor Gaudier (Lille). 6. The Treatment of Pleural Sinuses; Reporter, Dr. Girard (Geneva). 7. Wounds of the Pleuræ and Lungs; Reporter, Dr. Lenormant (Paris). 8. Parasites and Tumours of the Lungs and Pleuræ; Reporter, Professor Hugh Ferguson (Chicago). 9. The Surgical Treatment of Pulmonary Tuberculosis; Reporter, Professor Friedrich (Magdeburg). 10. Acute Colitis; Reporter, Professor Sonnenburg (Berlin). 11. The Treatment of Chronic Colitis; Reporters, Mr. D'Arcy Power (London) and Professor Segond (Paris). 12. Valvular Cæcostomy in the Treatment of Colitis; Reporter, Dr. Gibson (New York).

In the limited space available it is quite impossible to deal adequately with the very valuable reports on the different subjects, still less with the discussions which followed. Some few points may, however, be mentioned. Dr. Michel considers the Cammidge reaction of decided value in the diagnosis of pancreatic disease, notwithstanding the numerous adverse criticisms which have been directed against it.

Surgery of Lungs and Pleuræ.

With regard to the various forms of apparatus at present employed for the prevention of pneumothorax during the course of operations on the thorax Dr. Garrè thinks that none of them are quite satisfactory in spite of the great ingenuity which is displayed in their design and the marked improvement in technique which has attended their use. In cases of pulmonary emphysema Dr. Garrè recommends operation in the condition termed by Freund "the rigid, dilated thorax." The procedure he advocates is the resection of the second to the fifth (inclusive) costal cartilages on one side. By this method the respiratory capacity of the lungs may be doubled. His clinical observations over a period of three years have proved the value of this line of treatment. Unsatisfactory results are due principally to operation being undertaken at too late a stage or in unsuitable cases, as, for instance, when the immobility of the chest wall is due to causes other than calcification of the costal cartilages.

In dealing with wounds involving the pleura and lung Dr. Lenormant considers that treatment simply by occlusion of the external wound and keeping the patient absolutely at rest gives very good results in the great majority of cases, and should be the method of choice in the absence of pressing indications. Aspiration of a large hæmothorax causing urgent dyspnœa, pleurotomy in cases of suffocating pneumothorax, early pleurotomy in the presence of symptoms of pleural infection, will meet all indications in most cases. Only very rarely will it be necessary to

deal directly with a wounded lung. Direct surgical intervention in cases of pulmonary wound is a serious and difficult operation attended with a mortality of about 33 per cent. (statistics of 133 cases submitted to operation), and should only be undertaken in the event of severe primary or secondary hæmorrhage after treatment by absolute rest has proved unavailing. Dr. Lenormant insists on the need for free opening in the thoracic parietes and systematic exploration of the injured lung, as the lesions are often multiple, especially in gunshot wounds. Drainage of the pleura greatly increases the risks of infection (15 per cent. in undrained, 42 per cent. in drained cases), and should not, therefore, be employed unless when special indications such as imperfect hæmostasis or already existing infection are present.

In speaking of the surgical treatment of pulmonary tuberculosis, Professor Friedrich said that in cases of fibroid phthisis with cavities, especially in unilateral, chronic, or apyretic cases which are getting worse in spite of proper medical and climatic treatment, and in which the prospect of recovery is steadily becoming more doubtful, if the patient's general condition is sufficiently good and the age between 15 and 35 years, operative measures may be considered and even recommended. Slight or quiescent areas of tuberculosis in the opposite lung need not be considered as contra-indications. Notwithstanding the heavy mortality (8 in 27 cases), Professor Friedrich considers, due regard being given to the serious nature of the cases treated, that the results of operation are decidedly encouraging. It is, however, essential that the cases should be most carefully selected.

Sir William Macewen referred to three cases of pulmonary phthisis on which he had operated, one of which was particularly interesting because it had been found necessary to extirpate the whole of the left lung and the patient had recovered, and still 15 years after the operation, remained well and followed an occupation involving very hard work.

Colitis.

Mr. D'Arcy Power, speaking on the treatment of chronic colitis, said that when it is clearly recognised that a patient is suffering from ulcerative colitis and is not improving under ordinary treatment the sooner an appendicostomy is performed the better. But appendicostomy, though resulting in great improvement, Mr. Power has found to be insufficient to effect a complete cure, and he thinks that the best line of treatment lies in a combination of appendicostomy with vaccino-therapy. Mr. Power also showed a three-colour photograph of a fresh post-mortem specimen of ulcerative colitis, which very beautifully reproduced the original appearances.

The Exhibition of Fractures.

The great success which had attended the Cancer Exhibition at the second congress and the marked interest displayed in it had encouraged the committee to provide a corresponding attraction on the present occasion. In view of the world-wide revival of interest in their treatment no better subject than that of fractures could have been chosen. The choice was also singularly appropriate in view of the fact that the Presidential chair was filled by Professor Lucas-Championnière, whose name is so widely associated with and who has done so much to improve the treatment of fractures.

Amongst the most interesting exhibits were: (*a*) life-sized models showing the application of Bardenheuer's methods and radiographs illustrating the results obtained; (*b*) Lucas-Championnière's radiographs of articular fractures treated by massage and early movement; (*c*) Marbaix's radiographs of fractures of the neck of the humerus, the olecranon, and in the vicinity of the wrist, treated by immediate movement and massage without reduction and without retentive apparatus; and (*d*) Dollinger's plaster apparatus for the ambulatory treatment of fractures of the thigh and leg, and his plaster bandages for the treatment of fractures of the humerus and femur in new-born children. Probably, however, Lambotte's and Arbuthnot Lane's series of radiographs, showing the results obtained by the operative methods with which their names are associated, attracted the greatest attention.

Another interesting exhibit was Professor Kummell's series of radiographs illustrating the marked tendency of fractured bones in young individuals ultimately to recover their normal form, even when the original deformity had been very great and had not been corrected by treatment.

Hospitality at the Congress.

No account of the Congress at Brussels would be complete without mention of the magnificent hospitality offered to the visiting members by both the medical men and the leading citizens of the town. In many cases the delegates came with their wives, and these were invited also to the dinners and receptions and to a gala performance of *Orphée et Eurydice* at the Opera House, where Madame Croiza gave her services gratuitously. In addition, Brussels ladies lent their own cars and took the ladies of the party for two delightful drives. Madame Depage, Madame Lorthioir, Madame Verhoogen, and Madame Willems invited guests nightly to their beautiful houses. There were also three receptions, the first at Dr. Lorthioir's, where Dr. Lucas-Championnière, the President, received the delegates and their wives; the second at Baron and Baroness Lambert de Rothschild's, whose house is said to be the finest in Brussels; and the last at the beautiful town-hall. When it is considered that this is the third congress running which has been held in Brussels, the population of which is only 400,000, one feels all the more the generosity of the medical men and their wives and of many other citizens.

THE EFFECTS OF THE STRIKE ON THE LIVERPOOL SANITARY SERVICES AND THE DEATH-RATE.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

Liverpool, October.

Measures for the Protection of Infant Life.

WHAT the population of Liverpool has suffered in consequence of the recent widespread strikes has not been fully explained or realised. Indeed, the after-consequences are still making themselves felt and the death-roll is not yet closed. The pity of it is that it seemed, on the contrary, as if the effort of years was about to receive a well-merited reward. When the number of deaths resulting from epidemic diarrhœa during the first weeks of this year's remarkable summer were compared with the figures of the exceptionally hot seasons of 1897 and 1904 it seemed as if Liverpool would escape the usual consequences of very high temperature. Though the heat this summer was greater than that of the two hottest years of recent times the number of deaths was at first less than on those two occasions. The fact is that the sanitary control of the city has been constantly extended and improved. Besides, special attention is bestowed on the prevalence of epidemic diarrhœa among children during the hot weather. A large staff of female inspectors is now employed to visit the homes of the poor and give the parents advice in regard to the proper feeding and care of infants. Instructive posters and leaflets are distributed freely. Moreover, an extra large staff of scavengers is engaged to wash out the courts, alleys, and smaller streets of the poorer quarters. This is not done now and then, but every day. The trough water-closets in some of the courts and the courts themselves are cleared out twice a day, and stable middens are so sprayed with lime as to prevent the breeding of flies. In 1897 and 1904 the measures taken were not so energetic and thorough. Though the meteorological conditions during those two years were the nearest approach to what we have just experienced, the weather was neither so hot nor so dry. Nevertheless, by the beginning of July the infant mortality commenced to rise by leaps and bounds. This year, on the contrary, there was only a comparatively small increase of cases up to August 7th. By that time, however, the great strike had thrown all the sanitary services out of gear. The loss of life that immediately followed will at least serve to show how very effective these services had been.

The Death-rate of the Children and the Strike.

On Sept. 21st last the health committee of the Liverpool Corporation requested the medical officer to prepare a report setting forth exactly what had occurred. This report has just been printed, and Dr. E. W. Hope, the medical officer of health, has kindly forwarded me an early copy.

The statistics therein set forth show that the population of Liverpool is estimated, in the Census of 1911, at 747,627, and the actual deaths from diarrhœa were 20, 23, 38, and 46 during the four weeks of July last. The lowest number of deaths from all causes during that month was 227 in the second week, and this is equal to an annual death-rate of 15 per 1000 of the population. The highest number of deaths was 272 in the fourth week, and this raised the death-rate to 18 per 1000 per annum. During the month of July the average temperature was 64·1° F., and the rainfall only amounted to 0·3 inch. The average July temperature for the previous five years is 58·9° F. and the rainfall 2·4 inches. Out of the population, then estimated at 734,673, the average for the last five years shows 4, 6, 9, and 11 deaths from diarrhœa during the four July weeks, and the general death-rate for each week was equal to 15 per 1000 per annum. For the four weeks in August during these five years (1906 to 1910) the average deaths from diarrhœa were 23, 34, 52, and 63; the general death-rate rose from 15 to 19 per 1000. The average temperature was 59·5° and the rainfall 2·4 inches. The last three weeks of August this year correspond with the strike weeks, when the trouble began on August 5th and reached its most disastrous development on August 17th. This year the average temperature was 68·8°, and though there had hardly been any rain the previous month only 2·7 inches of rain fell in August. This may account for the fact that before the strike commenced, and in spite of the energetic sanitary measures, there were 81 deaths from diarrhœa during the first week and the general death-rate rose to 20 per 1000 per annum. The interruption of the sanitary services and the general disturbance resulting from the strike may be considered as the principal cause of the further and great increase of mortality. For the second week of August we have a death-rate of 24 per 1000, including 132 deaths from diarrhœa. The maximum mortality was recorded during the third week of August, which was the worst week of the strike. There were 159 deaths from diarrhœa, and the general death-rate was equal to 27 per 1000. But no sooner was it possible to begin to restore the sanitary services than the public health began to improve. Thus during the fourth week of August there were 140 deaths from diarrhœa, and the general death-rate descended to 24 per 1000.

The General Death-rate and the Strike.

It will, however, be easily understood that it took some time for the full effects of the evil conditions created to manifest themselves. With infants and young children the increase of sickness was more rapid and the decrease more prompt. Thus the deaths from diarrhœa during last September, though not so numerous, remained very high. They amounted for the four weeks to 148, 130, 109, and 112, notwithstanding the fact that the temperature fell, the average being 58·500, and there was more rain—namely, 3·4 inches. But this is not all due to the strike, for in normal times there are more deaths in September. The average of the previous five years shows that the general death-rate varied from 19 to 20 per 1000, and the total deaths from diarrhœa for the four weeks were, on the average of the five years, 60, 58, 46, and 41. This is higher than the two previous months. Indeed, the four worst weeks of the year in normal times are the last two of August and the first two of September. It so happened that effects of the strike coincided with the end of August. The effect on the general death-rate also coincides with the strike. In the first week of August and before the strike could have any influence the death-rate was affected by the great heat and had risen to 20 per 1000. The second week, when the strike was in progress, it rose to 24 per 1000, and the third week, when the strike had wrought its worst, it was at 27 per 1000. After that there were fluctuations, for during the fourth week in August the death-rate fell to 24 per 1000, then it rose again to 26 per 1000 in the first week, and 27 in the second week of September. Subsequently it fell to 23, and rose again to 25 per 1000 in the third and fourth weeks of September.

These figures very clearly indicate that the exceptionally hot weather did aggravate the situation, and that the strike intensified the evil to an alarming and disastrous extent. For a period of about two weeks it is probable that a third of the deaths from diarrhœa were due to the strike, and for some weeks following a smaller proportion of deaths from this cause were also due to the after-effects of the unwholesome conditions prevailing during the strike. But to judge from the figures given above relating to the general death-rate there seems to have been a notable increase of mortality from other causes, and this prevailed among adults as well as among children. These fatal results were obviously caused by the extreme, almost tropical heat, and the accumulation of filth, together with the want of food, especially of milk. Some 300 butchers' shops had to close their doors because they could not obtain any meat; but the interruption of the milk-supply had a more direct immediate effect on infants. Even the hospitals suffered, in spite of the efforts of the strike committee to secure the safe delivery of what was needed for the care of the sick. The angry crowd could not always distinguish between provisions for the hospitals and the vans conducted by strike breakers. Then parents, even mothers, carried away by the excitement of the moment, were apt to neglect their children, leaving them to play about the accumulating filth of the courts and alleys. The work of sanitary inspection stopped and the lady inspectors, who do such good work in advising mothers, could not penetrate into the disturbed districts.

The Insanitary Conditions Caused by the Strike.

Probably the worst evil of all was the interruption of scavenging services. In the better parts of the town this did not so much matter. Here the inhabitants were able to take care of themselves. They understood the importance of cleanliness, and though their domestic refuse accumulated and could not be removed, they endeavoured to burn a large proportion of it themselves, to sprinkle disinfectants over the rest, and cover it up so that it should not become a breeding ground for flies. Thus, no very great nuisance arose in the better quarters of Liverpool. But in the poor districts a few hours' neglect suffices for dangerous conditions to come into existence. Though closets are provided, there is nevertheless a considerable amount of fæcal matter in the courts. Adults sometimes do not take the trouble to go to the closets, and children habitually do all they need in the open air. Thus, the garbage that accumulates in these localities is much more dangerous than it would be among a more civilised population. To keep down this nuisance a special staff of scavengers scour out these streets and courts every day with the fire-hose and sweep everything down into the sewer. Further, they visit the inside of the houses, and if they find a neglected, dirty closet, the inhabitant is called upon to clean it forthwith while the inspector stands by and sees that it is properly done. If there is any resistance a summons is taken out at once, and the responsible parties have to appear before the police court to answer a charge of creating a nuisance. But during the strike, and for five to six days, this service entirely stopped. Then great poverty prevailed. What little milk was procured was more readily contaminated when brought into such filthy surroundings. Had this continued, something far more dangerous than an increased mortality from diarrhœa among children might have ensued. Cholera, or even plague, might have found favouring conditions amid all this poverty and dirt.

The Strike and the Disposal of Refuse.

Nor was it easy to bring matters back to normal conditions when the strike was over. With the courteous assistance of the sanitary officers I was able to visit the great destructor in Charles-street. Here there is a wharf, and a certain sort of refuse is discharged into barges. It is then conveyed along the Leeds canal to be delivered at different points where it can be utilised for agriculture. No less than 600 tons of refuse are brought every day from the streets of Liverpool to this destructor. About a third, or 200 tons, are burnt forthwith. The rest is sorted and conveyed away by the barges. During the strike, instead of 600 tons, barely 100 tons were brought in the 24 hours. Thus refuse, garbage, and filth of all sorts were accumulating in the courts and streets of Liverpool at the rate of 500 tons a day.

The dealing with this refuse is so well managed that it brings in about £3000 annually. For instance, oyster shells are sorted out and ground up for chickens, and thus they return to our table in the form of egg shells. All tin, iron hoops, and fairly pliable metallic scraps are placed in a compressing machine. A sort of funnel 6 feet long is filled up with these scraps, and then the loose contents are pressed down into a compact mass 25 inches in diameter,

6 inches in depth, and weighing about a hundredweight. Thus rendered easy to handle and transport, it can be more readily conveyed to where it is utilised and consequently finds many purchasers. Some of the clinkers from the furnace are sent away for road making. Others are ground on the spot and converted into artificial flag-stones. Two hundred yards run of flag-stones can be turned out here in one day, and they are the hardest on the market. In making artificial stones, private firms often use brick dust and this does not resist so well as cement mixed with ground clinkers, kept three days under cover and then left to dry in the open-air for five weeks.

When the strike was over it was necessary to work both night and day before the accumulation of refuse could be dealt with, and this continued for several days. As each cart enters it is weighed and, according to the place it comes from, directed to the destructor or to the barges. A minute record is kept of all the work done. The destructor supplies heat for four boilers, and these provide power for the manufacture of the electricity needed in the city. Thus a cessation of the scavengers' work compromises other important services, and this gives a further insight into the disastrous consequences that would have ensued had the strike continued. Now, fortunately, all is restored to the normal conditions. But every class of the community has received an object-lesson of such a rough and emphatic character that it certainly will be long remembered.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Hospitals and Contributions from the City Council.

THE finance committee of the corporation has issued a report on the contributions made by the council to the local hospitals. Various hospitals and dispensaries have written to the education committee for contributions to their funds. Ultimately it was resolved that the matter of hospital contributions should be dealt with by the city council as a whole, acting through its finance committee. The contributions hitherto made annually by the various committees to the hospitals have been: gas committee, £200; electricity committee, £71; and tramways committee, £125. At various times payments have been sanctioned from the common fund to the amount of £152, making altogether £548. The education committee in return for services rendered by the medical staffs of three hospitals to scholars at certain schools contributes £20. Altogether the sum contributed to the hospitals is far too small, considering the large number of workmen employed by the corporation. There are 120,000 children in attendance at the schools, and the number of children treated at the hospitals has largely increased. It has now been decided that the gas committee shall contribute £250, the electricity committee £150, and the tramways committee £250, making a total of £650. To this will be added £850 from the city fund account, making a total of £1500 to be granted each year to the various hospitals of the city.

More Food Poisoning.

In THE LANCET of August 5th and 19th I reported a serious outbreak of ptomaine poisoning at Bacup. There has now been another, though less extensive, outbreak in the same district. From Crewe also is reported a mysterious outbreak of sickness in several families, in some cases the whole family being affected, supposed to be due to the eating of meat which caused severe ptomaine poisoning.

Efforts on Behalf of a Hospital.

Children's pageants have recently been organised in various towns as a means of raising money on behalf of the local hospital. The Women's Guild of Service arranged, on behalf of St. Mary's Hospitals, a great procession on Oct. 13th, representing 26 tableaux. Hundreds of keen collectors were provided with boxes to collect from the spectators the much-needed money. Last year the Working Women's Campaign raised £1026 in aid of St. Mary's Hospitals, and this, with other contributions, enabled the new buildings in Oxford-road to be completed and opened.

Spitting on Tramcars.

The corporation has at last prosecuted three persons who were guilty of this abominable practice. It is to be hoped that everything possible will be done in future to extirpate a habit so unhygienic, disgusting, and uncleanly. There is still much work for the corporation officials to do in this direction.

Death of Captain G. S. Nickerson, R.A.M.C.

The death is announced of Captain G. S. Nickerson, R.A.M.C., Governor of the Sennar Province of Egypt, at the age of 38, as the result of a fall from his horse. Captain Nickerson, like his younger brother, Major W. H. S. Nickerson, R.A.M.C., was educated at the Manchester Grammar School and at the Owens College Medical School. In other obituary notices some confusion has arisen. It was Major W. H. S. Nickerson who served in the South African war and received the Victoria Cross for his gallant conduct at Wakkerstroom on April 20th, 1900. Captain G. S. Nickerson, whose death is now deplored, was the eldest son of the Rev. D. Nickerson, M.A., vicar of Newton-on-Ouse, Yorks. He graduated at the University of Manchester as Bachelor of Medicine and Bachelor of Surgery in 1896, and in the following year obtained the diploma of Public Health. Before entering the Army Medical Service he held a surgical appointment at the Stockport Infirmary.

Oct. 23rd.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Annual Medical Service in Liverpool.

ON Sunday, Oct. 15th, the annual medical service for St. Luke's Day was held at St. Luke's Church. The preacher was the Lord Bishop of London. The church, which seats 850 people, was filled to its utmost capacity. Inside, the sight was very picturesque, members of the medical profession in academic costume and officers and men of the Royal Army Medical Corps (T.) lending a pleasing variety to the scene. A procession comprising members of the profession (of both sexes) was formed at the west end of the church. The Lord Bishop of Liverpool read the lesson, the clergy taking part in the service being the Archdeacon of Liverpool and the Rev. W. Webster of the Liverpool College. The collection, which was on behalf of the British Medical Benevolent Fund, realised £57 3*s.* 1*d.*

Bequests to Liverpool Hospitals.

By the recent demise of Miss Willox, sister of the late Sir John Willox, M.P., the following charities will largely benefit by the terms of the will: £10,000 to the Liverpool Royal Infirmary, £10,000 to the Royal Southern Hospital, £10,000 to the Stanley Hospital, and £10,000 to the Liverpool Sanatorium for Consumption, Delamere Forest. The last-named bequest is to be known as the "Lady Willox Endowment Fund." £10,000 have also been bequeathed to the Newspaper Press Fund, London, to be invested more particularly for the founding of pensions or annuities for the benefit of incapacitated or indigent members. The late Sir John Willox was a distinguished member of the press.

Lancashire Sanitary Inspectors' Proposal: A Contemplated "Health Sunday."

The North-Western Centre of the Sanitary Inspectors' Association held its monthly meeting at the School of Hygiene on Oct. 14th. The members, who assembled from all parts of Lancashire, decided to recommend the General Council to consider the advisability of instituting an annual "Health Sunday" in every town and village throughout Great Britain. It was considered that by this means the question of public health would be prominently placed before the country. Mr. Francis Vacher, formerly medical officer of health to the Cheshire County Council and President of the association, subsequently addressed the members on "the position of women in regard to public sanitary work."

Oct. 23rd.

MEDICAL MAGISTRATE.—Dr. Benjamin Arthur Richmond of Rotherhithe has been added to the Commission of the Peace for the County of London.

BRISTOL AND THE WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

Bristol General Hospital.

AT a meeting of the election committee of the Bristol General Hospital Mr. George Parker, M.A., M.D. Cantab., M.R.C.S. Eng., was re-elected honorary physician for a further period of ten years, Mr. Newman Neild, M.B., Ch.B. Vict., M.R.C.P. Lond., M.R.C.S. Eng., was re-appointed honorary assistant physician for another term of ten years, and Mr. Frank Gower Bergin, L.R.C.P. Lond., M.R.C.S. Eng., was re-elected skiagraphist for a period of ten years. Mr. Joseph Storrs Fry, President of the institution, referred to the great loss involved in the death of Mr. C. B. Hare, and moved a resolution embodying a message of sympathy to his brother. This was seconded by Mr. Herbert Baker, the chairman, and supported on behalf of the honorary staff by Mr. Robert Lansdown, who spoke of Mr. Hare's courtesy and kindness to himself and his colleagues. At the memorial service at St. Mary Redcliffe the hospital was very fully represented by many members of the committee and of the medical, nursing, and clerical staff.

The Bristol Medico-Chirurgical Society.

The opening meeting of the 1911–12 session was devoted, as usual, to the presidential address, the presentation of the annual reports, and the election of officers. The society, having been rendered homeless by the migration of the medical library to different premises, met for the first time in the physiological lecture-theatre of the University. Among those present was Sir Isambard Owen, Vice-Chancellor of the University, who is an honorary member. The incoming president, Mr. C. A. Morton, senior surgeon to the General Hospital and professor of surgery to the University, gave an interesting address on the modern surgery of malignant disease, referring to the wide extent of the modern operative field and making special mention of his experience in the excision of rectal growths by the abdomino-perineal method. In supporting a vote of thanks, Mr. N. C. Dobson remarked that he had given a presidential address before the society 20 years before on the same topic. The secretary's report was fairly satisfactory from the financial point of view. The membership of the society is now 168. The librarian's report showed that the library, which is shared by the society with the University, contains 21,929 volumes and receives 249 periodicals. The removal to fresh premises has made it necessary to re-catalogue the whole library.

The Movement against Tuberculosis in Bristol.

The Bristol city council has decided to make the notification of pulmonary tuberculosis compulsory. The establishment of a tuberculosis "dispensary" along the lines of the Edinburgh and Paddington models is almost definitely decided upon. It will be supported, in part at any rate, by voluntary subscriptions, and it is hoped that it will be purely consultative in character, no patients being admitted to treatment, except at the instance of a qualified practitioner. The local profession has promised support to the scheme if it is conducted on these lines.

Milk and Tuberculosis.

At the last meeting of the Plymouth borough council it was decided "that a sum not exceeding £10 be expended in an investigation of the condition of milk sold in Plymouth as regards tubercular infection." One of the members remarked that it was the commencement of what was hoped would be a thorough testing of the milk-supply of the town.

Radio-activity and the Bath Mineral Waters.

The baths committee of the Bath corporation, at its meeting held on Oct. 20th, decided that experiments should be made to afford information as to the best methods of employing radium emanations and the relations between radio-activity and temperature of baths and the drinking cure. Its value in different forms of inhalation is also to be investigated.

The Research Defence Society.

A meeting of the Devon Branch of the Research Defence Society was held in Torquay last week. There was a good attendance, and Professor R. F. C. Leith of Birmingham gave an interesting lecture, illustrated with lantern slides, on "Some of the Gains Obtained by Experiments upon Animals."

Poliomyelitis in Cornwall.

At the quarterly meeting of the Cornwall county sanitary committee the medical officer of health (Dr. R. Burnet) reported that up to the present 37 cases of acute anterior poliomyelitis had been notified in Cornwall since the beginning of August. The chairman, the Hon. John Boscawen, said that Dr. Burnet had worked admirably over the matter. It was regrettable that his son had contracted the disease.

The Sewerage of St. Ives (Cornwall).

A Local Government Board inquiry was held at St. Ives on Oct. 18th in regard to the application of the local council for permission to borrow £1400 for the purpose of sewerage works for the town.

Oct. 23rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Death of Colonel W. P. Warburton, C.S.I., I.M.S.

ALTHOUGH it had been known in Edinburgh during the past few weeks that Colonel Warburton's health was very unsatisfactory, the news of his death on Oct. 18th came as a shock. Only a few weeks previously an assemblage of medical friends met to take leave of Colonel and Mrs. Warburton, and at that time there seemed the probability of years of life before him. Colonel Warburton was a native of Prince Edward Island, where he received his early education. He was a graduate in medicine of the University of Edinburgh. In 1866 he entered the Indian Medical Service, in which for over 30 years he had a distinguished career. Among the posts held by Colonel Warburton in India were those of medical officer to the native State of Kapurthala, a post which he occupied for 17 years. For short periods he acted as principal medical officer of the Assam military district, and of the military districts of Bandelkhand and Narbada. For four years he was Inspector-General of Civil Hospitals of the North-Western Provinces of Oudh, and later, during the absence of the Director-General, he officiated for three months as Director-General of the Indian Medical Service. At the time of his retirement from the service in 1899 he was honorary surgeon to the Viceroy, and had conferred on him the distinction of the C.S.I. At the end of 1899 Colonel Warburton succeeded Major-General Lithgow in the office of medical superintendent of the Edinburgh Royal Infirmary, from which post he retired at the end of July of this year. On Oct. 21st a simple and impressive funeral service was conducted in the chapel of the Edinburgh Royal Infirmary at noon by the infirmary chaplain, the Rev. Mr. Henderson. It was attended by the managers and by the medical, nursing, and other staffs. The board was represented by Sir Joseph Fayrer, Bart.

Opening of the Royal Medical Society.

Professor Robert Saundby of Birmingham opened the 135th session of the Royal Medical Society on Oct. 20th with an address which was chiefly reminiscent of his connexion with the society when a student. He recalled with pleasure the difference in the debates held in that hall from those of other medical societies. The student was not then afraid to express his opinions, irrespective of whom he might assail. Professor Saundby gave interesting details of the various professors under whom he had worked when studying in Edinburgh—e.g., Christison, Hughes Bennett, Saunders, Laycock, and others. He was always disappointed now with the performances of students at their final examinations. They seemed to have forgotten most of their early studies, and appeared not to appreciate the bearing of chemistry, physiology, and other sciences on clinical medicine. He thought, perhaps, that there was too much teaching and too little thinking on the part of the student. As soon as one examination was over the student very often forgot all he had mastered. He thought that the organisation of teaching was better in Edinburgh than in England; the teachers in the former were better paid and so were able to adopt teaching as their profession, while in England the

necessity for private practice often took up so much of the teachers' time that scant attention was paid to hospital work. In the large cities of England there was ample clinical material, and the medical students ought to do better. He deplored the fact that valuable clinical posts in the hospitals of Birmingham went vacant owing to lack of zeal on the part of Birmingham students. As to the prospects of those entering the medical profession he was sanguine; he did not think it was an overcrowded or ill-paid profession. There was no other profession in which the pecuniary prospects were better; a young doctor could at once earn a living, and there were so many avenues to success—army, navy, and colonial services, lunacy, public health, and so forth. The chances of success for the general practitioner were, however, not so good as they had been, but the opportunities for specialism were greater. Owing to frequent change of residence the bond between patient and practitioner was not so strong as formerly, and thus the young practitioner had now a larger share of practice than was the case formerly. He regretted that medical men did not form partnerships more often, as the advantages were very great. On the motion of Professor Crum Brown, a very hearty vote of thanks was awarded to Professor Saundby.

Dr. Angus Fraser's Retirement.

At the half-yearly meeting of the Aberdeen University Council, held on Oct. 14th, it was unanimously resolved to inscribe the following paragraph in the minutes of the Council: "That the General Council desires to place on record its great regret at the retirement of Dr. Angus Fraser, and its cordial appreciation of his services to the University and to the cause of medical education, in particular as acting as one of the Council's assessors to the University Court, 1889 to 1911." Dr. Ashley Mackintosh, in moving that the foregoing paragraph should be included in the minutes of the Council, said that it was difficult to overstate the services Dr. Fraser had rendered, more particularly to the medical school. Dr. Mackintosh thought he expressed the feeling of all when he said that no teacher in the University had a more sincere place in the hearts and memories of his pupils than Dr. Fraser. Years ago he had heard the opinion expressed by one of their most distinguished alumni, the late Sir James Anderson, that one of the best teachers he had ever come across was Dr. Angus Fraser. Dr. Fraser also had the entire confidence of the medical profession in the North of Scotland. Since 1889 he had held office as an assessor unopposed, and surely no stronger proof of the value of his services could be given. Nobody wished more heartily than the Council that his health might be restored, and that he might be spared for many years to enjoy the rest and retrospect of work well done.

Presentation to Professor D. MacEwan.

At a large and representative meeting of directors, past and present, at Dundee Royal Infirmary, on Oct. 5th, Professor MacEwan was made the recipient of a handsome silver tea service and a large silver tray bearing the inscription:—"Presented by the present and past members of the Board of Directors to Professor David MacEwan, M.D., in recognition of his valued services during 43 years to the Dundee Royal Infirmary. September, 1911." Professor MacEwan was joint house surgeon from July, 1868, to February, 1870. He was first appointed visiting surgeon in 1874, and continued in that position until he resigned on Sept. 30th, 1911. The presentation was made by Mr. T. H. Smith, who spoke in cordial terms of the personal qualities and great services of Professor MacEwan to the infirmary.

Oct. 23th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Heating and Cleaning of Primary Schools.

IN the annual report of the Commissioners of National Education, issued a few days ago, it is stated that at length the Treasury has agreed to provide certain funds to aid in the heating of the school-houses and the cleansing of out-offices. The Commissioners had asked for a grant sufficient to provide for the daily cleaning and weekly charing of the school premises, in addition to the heating of the school-rooms. The amount promised, however, would only provide half the necessary amount; the other half must be provided locally. Hitherto there was no general provision for heating and cleaning, and the expenses had often to be borne by the teacher. In country districts the children carried fuel in the form of peat to school with them.

Old People in Asylums.

At the last meeting of the committee of the Richmond Asylum the medical superintendent, Mr. Donelan, lodged a protest against the reception of senile patients in asylums. He held that these people should be provided for in workhouses. Their admission to asylum wards tended to "distort" statistics and to give a false idea of the relative proportion of recoveries and incurable cases. Moreover, it was cruel to their relatives to put on such patients the stigma of lunacy. The collection of accurate statistics, however, is hardly the dominating object of an asylum.

Medical Substitutes' Fees.

A point of some interest in regard to substitutes for medical officers has recently cropped up in the Edenderry Union. Dr. Waters was appointed temporary medical officer for the Johnstown Dispensary District by the relieving officer, who informed him that the remuneration would be a guinea a day. Dr. Waters acted for 12 days, and submitted a bill to the guardians for 12 guineas. The board refused to pay on the ground that the settled remuneration for medical substitutes in the Edenderry Union was £4 4*s.* per week. On Dr. Waters stating that the relieving officer had specifically engaged him at a guinea per day, the matter was referred to the Local Government Board. The latter replied that a relieving officer had no power to "bargain" with a doctor, and therefore the guardians were not justified in paying the rate of remuneration arranged. This point was decided a few years ago by the Lord Chief Baron, who held that the relieving officer had no authority to pledge the credit of the guardians further than any scale which they might have adopted. The remedy for the medical man is to hold the relieving officer personally liable.

Royal College of Physicians.

The annual meeting of the College was held on St. Luke's Day, when Dr. J. Hawtrey Benson was re-elected President, Dr. G. Peacocke Vice-President, and Dr. T. P. C. Kirkpatrick registrar. The annual dinner was held in the evening.

Typhus Fever in Belfast.

On Oct. 19th the officials of the Public Health Department of Belfast removed to the union hospital and to Purdysburn infectious diseases hospital four cases of typhus fever. The patients are closely related: three are from one street and the fourth—intimately associated with the others—is from an adjacent place. Seven "contacts" were disinfected and are being watched. The cases are mild.

The Water Famine in Belfast.

From October, 1910, to September, 1911, inclusive, only 28·75 inches of rain fell, while for the same 12 months during the previous driest years on record—1887 and 1893—the rainfall was 30·77 and 33·15 inches respectively, the average yearly rainfall for the city being 34·57. The present drought is, therefore, very exceptional. A leading citizen of Belfast, who has a thorough knowledge of engineering, recommends in the press a "stand-by" or "emergency" scheme for providing a temporary supply of water of some eight million gallons per day by pumping the water of Lough Neagh into the existing Stoneyford works (a distance of a little over six miles), from which it could be conveyed into Belfast. The Water Commissioners do not favour this plan; they seem to rely upon rain coming as usual, and they intend to apply for powers in the coming session of Parliament to enable them to construct a reservoir—which should long ago have been done—in the Mourne Mountains. Fortunately, the weather has altered and rain has at last come.

The King Edward Memorial in Belfast.

At a meeting of the executive committee of this scheme, held on Oct. 19th, it was reported that the fund, which had reached £17,570, would be kept open a little longer to increase it, if possible, to £20,000. The plans for the new building at the Royal Victoria Hospital, the form decided on for the memorial, will then be considered.

County Antrim Infirmary.

A three-day bazaar, with the object of increasing the funds of the County Antrim Infirmary, was opened in Lisburn on

Oct. 19th by the Countess of Aberdeen, who was accompanied by the Lord Lieutenant. Lady Aberdeen gave some most interesting recollections regarding her family's connexion with the district, and referred to her great-uncle, Dr. W. Thompson, who did the first ovariotomy in Ulster, and was for many years surgeon to the County Antrim Infirmary, and whose widow endowed the well-known Hospital for Incurables. Their Excellencies inspected the infirmary, visited the bazaar, and the Thompson Memorial Home for Incurables.

Oct. 24th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Congresses.

IN addition to the Surgical Congress, of which I wrote in some detail last week, the second congress of the French Pædiatric Association took place on Oct. 6th and 7th under the presidency of Dr. Comby. Little's disease, which was the subject of various reports was first considered. The second question was infant tuberculosis. The meeting decided on holding the first International Congress of Pædiatry at Paris in October of next year. The Obstetrical Society of France held its meeting from Oct. 5th to 7th, at which reports were presented on the pathogeny and treatment of puerperal eclampsia. The French Association of Urology held its meeting also from Oct. 5th to 7th, when reports were presented on non-hydatid cysts of the liver, and on non-hydatid cysts of the kidney.

A Chemist's Mistake.

Last month a Paris chemist dispensed for a patient a solution of corrosive sublimate in mistake for a soothing draught. Immediately after the departure of the purchaser the chemist discovered his error, but, ignorant of the name or address of his customer, he was unable to communicate with her. In order to prevent, or at least to minimise, the consequences of his mistake, the chemist at once inserted a warning notice in the newspapers, hoping that his customer would read it before making use of the draught. The warning, however, came too late, for she had drunk a portion of the draught on the day of purchase. She was saved by the intervention of a medical man, but she was nevertheless ill for a fortnight. On the pharmacist indemnifying her the action she had instituted was withdrawn.

The Paris Water-supply.

The question of the Paris water-supply, to which I have referred several times this year, has engrossed the attention of hygienists all the summer. The Commission of Surveillance of the Bureau of Hygiene met on Oct. 19th to investigate the present alarming condition. In the poorer quarters of Paris a serious epidemic of typhoid fever is raging, and the most urgent measures have become necessary to safeguard the public health. During the summer, in order to provide a sufficient water-supply, as I stated in THE LANCET of August 12th, 35,000 cubic metres daily of water from the Marne were distributed by the existing pipes, after disinfection with sodium hypochlorite. It now appears that this sterilising process was inadequate, so that the water which was turned into the reservoirs of Ménilmontant, Montsouris, and Charonne has contaminated all the pipes in these quarters, as is shown by the charts of typhoid fever cases at present notified in all these parts of Paris. Further, M. Hanriot, of the Academy of Medicine, declares that he has found not only chlorine in the dangerous waters but also sulphuric acid. Investigation has disclosed the fact that it had been found requisite to treat the waters of the Vanne by sodium sulphate to neutralise the excess of chlorine. This was the more necessary in that these waters were not, like the 35,000 cubic metres of water from the Marne during the month of August, mingled with 200,000 cubic metres of spring water. Moreover, this mode of sterilisation, efficacious enough against the bacillus coli, is inadequate against Eberth's bacillus. Parisians have therefore been officially recommended to boil their water, a recommendation especially necessary in the poorer quarters particularly attacked. The wealthier quarters have little to fear, for they have always taken all necessary precautions to sterilise their water, and, moreover, there the habit of drinking mineral waters is almost universal.

The Radium Palace.

Madame Curie has asked M. Ménot, the architect of the Sorbonne, who is building the Radium Palace on the site of the former Convent of Visitandines in the rue St. Jacques, to add a teaching laboratory. The original plans of the Palace contemplated only a research laboratory, to the cost of construction of which the Pasteur Institute undertook to contribute 400,000 francs and the University of Paris 280,000. The new laboratory desired by Madame Curie will not add more than some 40,000 francs to the expense. It will accommodate 40 students. This additional subvention will be sought from the University of Paris.

Oct. 21st.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Temperance Movement in Austria.

AT a meeting of the Austrian anti-alcohol societies held recently in Graz it was remarked that the proportion of medical members was increasing considerably, an important fact both as an indication of the favour with which the temperance movement was regarded in well-informed quarters, and also on account of the influence which such practitioners exercised over their patients. Another notable feature was the circumstance that numerous college and university students have joined the ranks of the anti-alcoholists within the last two years. For those who know that beer-drinking is (or rather used to be) one of the chief relaxations of the German students, this fact is more significant than a whole volume on the subject. A third and also a very important item in the discussions was the attention paid by many speakers to the influencing of children in favour of total abstinence. In fact, a large proportion of the papers dealt with the effects of alcohol on children. Dr. Weiss of Vienna, as well as Professor Kassowitz, pointed out how the breast feeding of infants was interfered with by alcoholic indulgence on the part of the mother; the latter also denounced the use of alcohol as a tonic for children under 14 years of age. Frau Fröhlich, who read a paper on Alcoholism in Children under Six Years of Age, said that both in rural districts and in industrial centres infants were often given some alcoholic tincture, or even more or less diluted brandy, as a hypnotic, to ensure a quiet night for the hard-working parents. Beer-drinking was quite common at a very early age in Bohemian and Silesian villages, since the parents had no clear ideas as to the harmful effects of this habit. Frau Masaryk gave an account of an inquiry which she had made with reference to the use of alcoholic beverages by school-children. She described the facts supplied to her from reliable sources as fearful. In certain districts there was not a single boy over 12 years who had not been intoxicated at least once. Even in the larger towns boys and even girls were regularly given an evening drink from their parents' beer glass, whilst in the wine districts the daily consumption of light wine by children amounted on an average to a pint per head. Dr. Schweighofer of Salzburg delivered an address on the Effects of Parental Alcoholism as Manifested in the Offspring, illustrating his remarks by a series of lantern pictures. He maintained that alcohol rather than syphilis was mainly responsible for the increase of mental disease amongst our modern population. He therefore urged the necessity of restricting the manufacture and sale of alcoholic beverages, since the income derived from this source by the State was more than spent in combating its evil effects in the forms of crime and illness.

Illness of Professor von Neusser.

The numerous friends of that eminent physician, Professor von Neusser, will learn with regret that he has had to undergo a severe operation for nephrolithiasis and subsequent hydronephrosis. He is reported to be doing well, but still his condition is such as to cause a good deal of anxiety to his family. It may be mentioned that the diagnosis of his illness was made by himself.

Disorderly Scenes in the Anatomical Institute.

Owing to their constantly increasing number the students

in the anatomical institute have had to put up with a great deal of discomfort in the course of their work. The accommodation for those engaged in dissection has become so inadequate that students have had to wait their turn for weeks and weeks; and the conveniences for washing have been altogether insufficient. Some idea of the congestion may be formed from the fact that 500 students are working at a time with only 200 chairs at their disposal, and only two hot-water pipes in use. At the recent opening of the winter term the students organised a noisy demonstration, at the same time assuring the professor (Dr. Tandler) that this form of protest was not directed against him but against the administration of the clinical institutes—in fact, against the Government. The professor acknowledged the reality of their grievances and volunteered to go at the head of a deputation to the Dean of the University and afterwards to the Ministry of Education in order to present a request for the necessary funds for the required improvements. This was agreed to, and after some delay the Government consented to grant 30,000 kronen in order to increase the number of seats and to provide certain important apparatus. One of the chief subjects of complaint, however, will be very difficult to remedy. This is the insufficiency of the ventilation, for owing to the situation of the institute in one of the busiest main thoroughfares the windows of the dissecting rooms and laboratories cannot be opened as frequently as would be desirable.

Oct. 23rd.

UNITED STATES OF AMERICA.

(FROM OUR OWN CORRESPONDENTS.)

The Harvey Lecture by Dr. Simon Flexner.

Dr. Simon Flexner, of the Rockefeller Institute, in delivering one of the lectures of the Harvey Society recently, took as his subject the local specific therapy of infections. At the Rockefeller Institute, he said, experimental influenzal meningitis had been induced in monkeys and had been successfully treated by a serum produced by Dr. Waldstein. Monkeys even in an advanced stage of the disease had recovered under local treatment. Pneumococcal meningitis also had been induced in the monkey, but up to the present time pneumococcal serum had given very poor results. The micro-organism of acute poliomyelitis was so minute as to be invisible. It was localised in the central nervous system, the paralysis being secondary. The most probable means of treating the disease successfully was by local injection. Dr. Flexner considered urotropin of little use in developed cases, though perhaps of some value as a preventive measure. In the treatment of infantile paralysis, if any success was to be looked for, early treatment was essential. Work was being pursued at the institute with the view of producing effective serums for the treatment of dangerous local infections, and there was reason to hope that their efforts might ultimately be crowned with success.

The Milk-supply Problem in New York.

At the New York Academy of Medicine, in the Section of Pædiatrics, the milk question as it relates in certain of its aspects to infant mortality was recently discussed. The Chief Health Commissioner, Dr. Lederle, asked the members of the Academy to support the Health Department in its efforts to obtain an appropriation from the Board of Estimate to enable it to open 70 milk stations in Greater New York. He said that at least 1200 infants had been saved in the past nine months by the improved quality of the milk supplied and by the campaign of education. The milk problem, he said, had become a great economic problem, and it was impossible in a city of the size of New York, where 1,600,000 quarts of milk were used daily, to have each quart pure enough for infant feeding. Such a course was neither requisite nor economical. To solve the problem he had prepared a schedule subdividing the milk-supply into three classes—for infants and children, for adults, and for cooking purposes.

New York's Lowest Death-rate.

There has been a substantial decrease of the death-rate of the city for the first nine months of the year. The death-rate for this period was 15·56 per 1000, as against 16·27 per 1000 for the corresponding period of 1910. Up to Sept. 30th of this year 11,733 infants under 1 year have died from all causes, as against 12,920 for the period ending Sept. 30th, 1910, giving death-rates of 124·6 and 142·3 per 1000 respectively.

Conditions in Factories of New York State.

Dr. Charles D. Graham-Rogers, of the State Labour Department, recently described to the Wagner-Smith Factory Investigating Commission the conditions menacing the lives and health of factory workers. He stated that he alone was "the entire Bureau of Medical Inspection" for the factories of the State, and that he was utterly powerless, under the present law, to cope with the evil conditions he found and could merely report them with recommendations for remedial measures. Insanitary conditions, he said, prevailed throughout the factories of the State. Children were employed in phosphorus match factories, packing matches in boxes, although the law permitted their employment only in stacking the boxes. He recommended the absolute exclusion of women and children from match factories and the absolute prohibition of the use of yellow phosphorus. Among other recommendations made were the following: (1) compulsory dust removal and ventilation; (2) medical examination of employees; (3) instruction in industrial hygiene in schools; (4) the establishment of a division of industrial hygiene composed of medical men, biologists, and chemists; and (5) the prohibition of work in cellars.

Renaming of Blackwell's Island.

Blackwell's Island, which was for many years the seat of the city asylums for the insane, ordinary and criminal, with its old buildings, now enlarged and improved, has been given over to the hospitals of the Department of Charities. That body has, therefore, decided to change the name of the island to Hospital Park, the commissioner pointing out that the self-respect of the present inmates is safeguarded by changing the name with its connotations of crime and insanity.

The Budget Exhibit.

The Budget Exhibit is an annual object-lesson to the taxpayers of New York, showing them how the local taxes are expended. The departments of health and charity naturally occupy considerable space and attract much attention from the 15,000 daily visitors. An interesting exhibit is a model milk station for children, in which is a huge map of Manhattan borough, showing every infant death of the past year marked with a black dot. Moving pictures display various sections of the overcrowded East Side.

Abolition of the Public Drinking Cup.

The regulations regarding individual drinking cups in public places have led to occasional ludicrous results. The Pennsylvania Railroad supplied paraffin individual cups for its patrons, and the newly landed immigrants, confusing these with the gelatin cones in which penny ice-creams are sold, attempted to devour them. Some of the smaller hotels supply the paraffin cups in slot machines. The New York Public Library has installed a kind of fountain which throws a stream of water directly into the air, which the thirsty bend over and drink.

A "Christian Science" Home.

The "Christian Science" adherents, who seem to have dropped out of the public eye considerably since the death of Mrs. Eddy, have at length heeded the reproach that they have never done anything for the sick poor, and the first "Christian Science" Home of the State of New York has been incorporated.

Illicit Drug-Selling.

Five arrests were made recently in one day for the illegal sale of opium, the Federal excise officers finding over £300 worth of the drug prepared for smoking. This smoking opium is said to be made from the ordinary solid extract, mixed with lactose and the residuum found in the interior of the opium pipe after its use for some time, which is known as *yen shi*. A drachm of this mixture is sold in a small tin can, or "shell," for 50 cents (2*s*.). Such a shell furnishes the usual daily dose: when "cooked" *secundum artem* it makes about a dozen "pills."

New York State Hospital for Incipient Tuberculosis.

Bronze tablets were unveiled recently in the two new pavilions of the State Hospital for Incipient Tuberculosis in

the Adirondacks. These pavilions, erected in memory of Dr. John H. Pryor of Buffalo and Dr. Willis G. Macdonald of Albany, double the capacity of the institution and cost in themselves over £40,000; they will reduce a waiting list of 150 to 10 or 12. There are now an administration building and four connected pavilions, with 516 acres of farm and forest land, valued in all at over £100,000. Patients live in the open air the year round, and the institution claims to cure from 76 to 84 per cent. of all incipient cases.

Hookworm Disease in California.

The California State Board of Health has asked for the coöperation of the United States Public Health and Marine Hospital Service in regard to the prevalence of hookworm disease in the State. It has been shown that about 25 per cent. of immigrants into the State are infected; also that many of the deep gold miners are suffering from the disease. Dr. Charles W. Stiles, of the Public Health Service, is at present investigating this disease in Texas.

Oct. 17th.

Obituary.

ALFRED PETER HILLIER, M.D., C.M. EDIN.,

MEMBER OF PARLIAMENT FOR NORTH HERTS

THE announcement of the death of Dr. A. P. Hillier, which took place in tragic circumstances at his residence in Eccleston-square on Oct. 24th, will be received with regret by members of the medical profession. In the House of Commons he was an active worker, whose speeches were listened to with attention. His vigorous criticisms of the National Insurance Bill during the past session of Parliament will be remembered by our readers.

Dr. Hillier, who was born in 1858, was the son of Mr. P. Playne Hillier of Shortwood, Gloucestershire. He graduated M.B., C.M. at the University of Edinburgh in 1882, having previously taken the B.A. degree of Cape University in 1877. In 1884 he proceeded to the M.D. degree. In 1878–79 he served as a trooper with the Colonial Forces in the Kaffir War, obtaining a medal and clasp. Subsequently he commenced practice at East London, Cape Colony, and later was appointed resident surgeon to the Kimberley Hospital, afterwards entering into partnership with Dr. (now Sir Starr) Jameson. Politics, however, appealed to him strongly, and on going to Johannesburg in 1893, in which year he was elected President of the South African Medical Congress, he took an active part in Transvaal affairs. As a prominent member of the Reform Committee at the time of the Jameson Raid he was for some time confined in Pretoria Gaol, being released in 1896 on the payment of a fine of £2000. In the following year he returned to England. In 1899 he was one of the delegates of the National Association for the Prevention of Consumption to the Berlin Tuberculosis Congress. He was consulting physician to the London Open-air Sanatorium and was also a councillor of the Royal Colonial Institute. His interest in public affairs won him from the active practice of his profession, and he devoted himself more and more to politics. In 1900 he unsuccessfully contested Stockport, and in 1906 he was rejected by South Bedfordshire, but in January, 1910, he was the successful candidate for the Hitchin Division of Hertfordshire, standing in the Unionist interest.

Dr. Hillier was joint editor of *Tuberculosis*. In 1900 he published "Tuberculosis: its Nature, Prevention, and Treatment, with Special Reference to the Open-air Treatment of Phthisis," and in 1903 the "Prevention of Consumption." His political writings included "Raid and Reform," which was published in 1897; "South African Studies," published in 1900; and the "Commonweal, or the Federal System of Political Economy," published in 1909. He also contributed articles on South Africa to the Encyclopædia Britannica, and was the author of the "Antiquity of Man in South Africa and Evolution." Dr. Hillier married in 1885 a daughter of Mr. F. B. Brown of Queenstown, Cape Colony, whom he leaves with one son and two daughters.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Richard Schulz, formerly *oberarzt* of the Ducal Hospital in Brunswick, aged 63.—Dr. Ludwig Bauer, *docent* of hygiene in the Stuttgart Technical School, aged 47.—Dr. Emil Emmert, *docent* of ophthalmology in the University of Berne. He was the son of the late Dr. Karl Emmert, professor of forensic medicine, and published various papers on ophthalmological topics, and also on the subject of school hygiene. He was 66 years of age.—Dr. Blatin, formerly professor of physiology in the Clermont Medical School.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held in October the following candidates passed in the subjects indicated:—

Surgery.—E. E. Allen (Sections I. and II.), Royal Free Hospital; E. G. Brisco-Owen (Section I.), Cardiff and Royal Free Hospital; F. G. Norbury (Section II.), Glasgow; and G. S. Richardson (Section II.), Leeds.
Medicine.—E. E. Allen (Section II.), Royal Free Hospital.
Forensic Medicine.—E. E. Allen, Royal Free Hospital; H. N. Eccles, Guy's Hospital; E. B. Keen, Charing Cross Hospital; and F. C. Shone, University College Hospital.
Midwifery.—E. E. Allen, Royal Free Hospital; L. M. Ladell, London Hospital; H. Rimington, St. Bartholomew's Hospital; F. C. Shone, University College Hospital; and H. G. Steel and W. H. Vincent, St. Mary's Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:—E. E. Allen, F. G. Norbury, and G. S. Richardson.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Kulbs, who recently came from Kiel to be Professor His's First Assistant in the Medical Clinic, has been granted the title of Professor.—*Cracow:* Dr. Johann Mazurkiewicz of Lemberg has been recognised as *privat-docent* of Psychology.—*Göttingen:* Dr. Bernhard Zoeppritz has been recognised as *privat-docent* of Midwifery and Gynæcology; and Dr. Oswald Loeb, formerly of Berne and Basle, as *privat-docent* of Pharmacology.—*Greifswald:* Dr. Pels-Leusden, now in charge of the surgical side of the Berlin Charité Policlinic, has been offered the chair of Surgery in succession to Dr. F. König, who has gone to Marburg.—*Innsbruck:* Dr. Hans von Haberer of Vienna has been appointed to the chair of Surgery, in succession to Dr. Schloffer, who is migrating to Prague. Dr. Hans Rabl, extraordinary professor in Vienna, has been offered the chair of Histology and Embryology.—*Moscow:* Dr. S. Golovin of Odessa has been appointed to the chair of Ophthalmology.—*Naples:* Dr. Battaglia has been recognised as *privat docent* of Anatomy and Pathological Histology; Dr. G. Spinetti as *privat-docent* of Operative Medicine; and Dr. De Sandro and Dr. E. Ciaramelli as *privat-docenten* of Internal Pathology.—*Rome:* Dr. S. Tini and Dr. F. Scordo have been recognised as *privat-docenten* of Internal Pathology; Dr. L. Dominici and Dr. S. Puglisi Allegra as *privat-docenten* of External Pathology; Dr. A. Mendicini, Dr. G. Bianconi, and Dr. G. Impallomeni as *privat-docenten* of Orthopædic Surgery.—*Turin:* Dr. E. Calamida and Dr. C. Mantelli have been recognised as *privat-docenten* of External Pathology, Dr. E. Mani as *privat-docent* of Ophthalmology, and Dr. Bertolotti as *privat-docent* of Physio-therapeutics.—*Vienna:* Dr. Otto Poetzl has been recognised as *privat-docent* of Psychology and Neurology.

KING'S COLLEGE (UNIVERSITY OF LONDON).—A course of four advanced lectures in Physiology will be delivered in the Physiological Laboratory, King's College, London, by Dr. F. S. Locke on Energetics, at 4.30 P.M., on the following Mondays: Nov. 13th, 20th, 27th, and Dec. 4th, 1911. These lectures are free to all members of King's College, London, to all internal students of the University of London, to all medical students in London, and to all medical men on presentation of their cards.

ROYAL DENTAL HOSPITAL OF LONDON.—The annual dinner of the staff and past and present students will be held on Friday, Nov. 24th, at the Hôtel Métropole (Whitehall Rooms), under the presidency of Mr. Walter Harrison. Those who desire to be present are requested to communicate with the Dean. The medical committee will be "At Home" to all old students of the hospital on the following day from 2.30 to 5 P.M., when the various departments of the hospital and school will be open, and specimens

and cases of interest, &c., will be shown by the members of the staff and lecturers.

LITERARY INTELLIGENCE. — The University of London Press announce for early publication: "Infectious Diseases and their Preventive Treatment" by Edward Seaton, M.D., consulting medical officer, Surrey County Council.

FINE FOR WATERING MILK.—A farmer was fined £20 and costs, or three months' hard labour, by the Bristol magistrates last week for selling milk containing 27·65 per cent. of added water. He had been fined before on two occasions.

DEATH OF A CENTENARIAN.—The death occurred recently at Upper Snailham Farm, Icklesham, East Sussex, of Mrs. Sarah Ann Carter, who had attained the great age of 102. She was born at Northiam, and had resided in the vicinity all her life. At the time of her death Mrs. Carter had 50 grandchildren, 110 great grandchildren, and 13 great great grandchildren.

DEATH OF DR. WILLIAM LANG.—At Southwick, Sussex, on Oct. 13th, the death occurred of Dr. William Lang in his 71st year. Studying at Glasgow University he graduated C.M. with honours in 1863 and proceeded to his doctorate in the same year. For some time he was resident assistant medical officer at Town's Hospital and the City Lunatic Asylum, Glasgow, but subsequently he settled in Grenada, West Indies, where he was health officer for the port of Grenville. He was living in retirement at Southwick.

CHELSEA CLINICAL SOCIETY.—The opening meeting of the fifteenth session of the Chelsea Clinical Society was held on Oct. 17th at St. George's Hospital Medical School. The retiring President, Dr. T. W. Parkinson, most generously presented the society with a presidential badge. The President, Dr. J. A. Mansell Moullin, gave the opening address on the subject of "Hysterectomy and its Influence upon Gynæcological Surgery of the Present Day." In future the society will hold its meetings in the club-rooms of St. George's Hospital Medical School, which have very kindly been placed at the disposal of the society by the authorities and executive officers of the hospital.

ST. BARTHOLOMEW'S HOSPITAL WOMEN'S GUILD.—A well-attended meeting was held in the Great Hall of St. Bartholomew's Hospital on Monday, Oct. 23rd, at the invitation of Lord and Lady Sandhurst, to inaugurate a women's guild for the hospital. A short account of a similar guild at Guy's Hospital was given by Mrs. Lauriston Shaw, and after speeches by Lord Sandhurst and Dr. Norman Moore resolutions were passed forming the guild and electing the first committee and officers. The objects of the guild are to provide clothes for the use of necessitous patients in the wards and on their discharge from the hospital, and to take up any other work in connexion with the hospital which from time to time may commend itself to a general meeting with the sanction and approval of the treasurer and almoners.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The National Insurance Bill.

PARLIAMENT has re-assembled after its autumn holiday, and the Government has taken steps to secure the passage of the National Insurance Bill into law before the end of the year. On Wednesday, Oct. 25th, the Prime Minister submitted to the House of Commons a closure motion allocating time to its further discussion. After protests from the Opposition, a time-table was adopted by which the future proceedings on the Bill are to be regulated. Sixteen Parliamentary days have been allocated to the consideration in committee of the clauses and schedules of the invalidity portion of the Bill which have not yet been reviewed by the House of Commons. Seventeen clauses were discussed before the House rose for the holidays. The unemployment portion of the Bill has been referred to a Grand Committee. Five Parliamentary days are to be given to the report stage. The contention of the Government is that this time-table will afford adequate opportunities for the discussion of the various fresh questions which arise on the Bill.

BOOKS, ETC., RECEIVED.

ARNOLD, EDWARD, London, W. LONGMANS, GREEN, AND CO., New York.

International Medical Monographs. General Editors: Dr. Leonard Hill, F.R.S., and Dr. William Bulloch. The Mechanical Factors of Digestion. By Walter B. Cannon, A.M., M.D., George Higginson Professor of Physiology, Harvard University. Price 10*s.* 6*d.* net.

The Diagnosis of Nervous Diseases. By Purves Stewart, M.A., M.D. Edin., F.R.C.P. Third edition, revised and enlarged. Price 15*s.* net.

CHURCHILL, J. AND A., London.

A Manual of Midwifery. By Thomas Watts Eden, M.D., C.M. Edin., F.R.C.P. Lond., F.R.C.S. Edin. Third edition. Price 15*s.* net.

Allen's Commercial Organic Analysis. Volume V.: Tannins; Analysis of Leather; Dyes and Colouring Matters, Dye-stuffs of Groups 6 to 12; Colouring Matters of Natural Origin; Analysis of Colouring Matters; Colouring Matters in Foods; Inks. By the Editors and the following Contributors: W. P. Dreaper, J. F. Hewitt, W. M. Gardner, Albert F. Seeker, Percy H. Walker, E. Feilmann. Fourth edition, entirely rewritten. Edited by W. A. Davis, B.Sc., A.C.G.I., and Samuel S. Sadtler, S.B. Price 21*s.* net.

A Manual of Bacteriology, Clinical and Applied. By R. Tanner Hewlett, M.D., F.R.C.P., D.P.H. Lond. Fourth edition. Price 10*s.* 6*d.* net.

COLUMBIA UNIVERSITY PRESS, New York. OXFORD UNIVERSITY PRESS, London.

Education and Preventive Medicine. By Norman Edward Ditman, Ph.D., M.D. Price 1*s.* 6*d.* net.

FROWDE, HENRY, AND HODDER AND STOUGHTON, Edinburgh, Glasgow, and London.

Manual of Surgery. By Alexis Thomson, F.R.C.S. Edin., and Alexander Miles, F.R.C.S. Edin. Volume I.: General Surgery. Fourth edition, revised and enlarged. Price 10*s.* 6*d.* net.

GARDEN CITY PRESS, LIMITED, Letchworth, Herts.

Five Months in a London Hospital. By Katherine Roberts. Price, cloth, 2*s.* 6*d.*; paper, 1*s.*

KING, P. S., AND SON, Orchard House, Westminster, London, S.W.

National Conference on the Prevention of Destitution. Report of the Proceedings of the National Conference on the Prevention of Destitution held at the Caxton Hall, Westminster, on May 30th and 31st, and June 1st and 2nd, 1911. President: The Rt. Hon. the Lord Mayor of London. Price 10*s.* 6*d.* net.

Archives of Neurology and Psychiatry from the Pathological Laboratory of the London County Asylums, Claybury, Essex. Edited by Frederick Walker Mott, M.D., F.R.S., F.R.C.P., Director of the Laboratory and Pathologist to the London County Asylums. Vol. V. 1911. Price not stated.

LEWIS, H. K., 136, Gower-street, London.

Heart Sounds and Murmurs, Their Causation and Recognition. A Handbook for Students. By E. M. Brockbank, M.D. Vict., F.R.C.P., Senior Hon. Assistant Physician, Royal Infirmary, Manchester. Price 2*s.* 6*d.* net.

A Pocket Medical Dictionary, giving the Pronunciation and Definition of the Principal Words Used in Medicine and the Collateral Sciences. By George M. Gould, A.M., M.D. Sixth edition, revised and enlarged. 34,000 words. Price 5*s.* net.

MACMILLAN AND CO., LIMITED, London.

Conduct and its Disorders, Biologically Considered. By Charles Arthur Mercier, M.D., F.R.C.P., F.R.C.S., Physician for Mental Diseases to Charing Cross Hospital. Price 10*s.* net.

Man and Beast in Eastern Ethiopia. From Observations made in British East Africa, Uganda, and the Sudan. By J. Bland-Sutton, F.R.C.S. Eng. Price 12*s.* net.

SAUNDERS (W. B.) COMPANY, Philadelphia and London.

A Manual of the Practice of Medicine. Prepared especially for Students. By A. A. Stevens, A.M., M.D. Ninth edition, revised. Price 12*s.* 6*d.* net.

A Text-book of Physiology. For Medical Students and Physicians. By William H. Howell, Ph.D., M.D., Sc.D., LL.D., Professor of Physiology in the Johns Hopkins University, Baltimore. Fourth edition, thoroughly revised. Price, cloth, 18*s.* net.

Pathological Technique. A Practical Manual for Workers in Pathological Histology and Bacteriology. By Frank Burr Mallory, A.M., M.D., Associate Professor of Pathology, Harvard University Medical School, and James Homer Wright, A.M., M.D., S.D., Director of the Pathological Laboratory of the Massachusetts General Hospital. Fifth edition, revised and enlarged. Price, cloth, 13*s.* net.

Veterinary Bacteriology. A Treatise on the Bacteria, Yeasts, Molds, and Protozoa Pathogenic for Domestic Animals. By Robert Earle Buchanan, Ph.D., Professor of Bacteriology in the Iowa State College of Agriculture and Mechanic Arts, Division of Veterinary Medicine. Price, cloth, 13*s.* net.

WRIGHT, JOHN, AND SONS, LIMITED, Bristol. (SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., LIMITED, London.)

Health to Date: The Modern Doctor; with Newer Methods of Cure. As explained by W. T. Fernie, M.D. Price 4*s.* 6*d.*

Dental Anæsthetics. A Text-book for Students and Practitioners. With a Contribution on Analgesia by John Bolam, L.D.S. Edin., Honorary Assistant Dental Surgeon, Newcastle-upon-Tyne Dental Hospital. By Wilfred E. Alderson, M.D. Durham, M.S., B.Hy., D.P.H., Honorary Physician, Newcastle-upon-Tyne Dispensary. Price 3*s.* net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BRAINE-HARTNELL, CHRISTOPHER, F.R.C.S. Edin., has been appointed Honorary Surgeon to the Cheltenham General Hospital.

BRODRICK, CHARLES CUMBERLAND, L.R.C.P. & S. Edin., has been re-appointed Medical Officer of Health by the Tavistock (Devon) Rural District Council.

CAMPBELL, RODERICK ALAN, M.D. Edin., has been appointed Assistant Physician to the Crichton Royal Institution, Dumfries.

COPE, V. Z., M.S. Lond., F.R.C.S. Eng., has been appointed Surgeon in Charge of Out-patients at St. Mary's Hospital.

CLAYTON-GREENE, W. H., F.R.C.S. Eng., has been appointed Surgeon to St. Mary's Hospital.

CRUICKSHANK, JOHN, M.B., Ch.B. Glasg., has been appointed Pathologist and Clinical Pathologist at the Crichton Royal Institution, Dumfries.

CUMMING, J. H., M.R.C.S., L.R.C.P., has been appointed House Physician at the Royal Free Hospital.

DIXON, JOSEPH F., M.D. Dub., has been appointed Medical Superintendent of the Leicester Asylum.

DOWNES, HAROLD, M.B., C.M. Edin.. L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health for the Ilminster (Somerset) Urban District.

FENWICK, W. STEPHEN, M.S., M.B. Lond., F.R.C.S. Eng., has been appointed Surgeon to Out-patients at the Hampstead General Hospital.

GOWLAND, W. P., M.D., B.S. Lond., has been appointed Senior Demonstrator in Anatomy at the University of Liverpool.

GREEN-ARMYTAGE, VIVIAN BARTLEY, Captain, I.M.S., has been appointed Medical Officer to the Eden Hospital, Calcutta.

GREENWOOD, A. ATKINS, M.B., B.S. Lond , has been appointed Medical Officer to the X Ray and Electrical Department at the Hampstead General Hospital.

HOULTON, J. L., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant to the Ear, Nose, and Throat Department at the Royal Hospital, Sheffield.

KINGSTON, STUART HARDY, M.B. Bristol, L.R.C.P. Lond., M.R.C.S., has been appointed Senior Resident Medical Officer at the Bristol Royal Infirmary.

MACPHAIL, JOHN MONRO, M.B., Ch.B. Edin., has been appointed Assistant Medical Officer of the Eastville and Stapleton Workhouses by the Bristol Board of Guardians.

PORTER, R. E., M.R.C.S., L.R.C.P., has been appointed House Surgeon at the Royal Free Hospital.

RAWLINS, Miss M., M.B., B.S., has been appointed Assistant Anæsthetist at the Royal Free Hospital.

SCOTT, Miss M., M.B., B.S. Lond., has been appointed House Physician at the Royal Free Hospital.

SHINNIE, A. J., M.B., Ch.B. Aberd., has been appointed House Surgeon at the Hampstead General Hospital.

STUART, A. M., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician at the Hampstead General Hospital.

STURDEE, EDWIN LAWRANCE, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Exeter Port Sanitary Authority and Public Vaccinator for the Exmouth District by the St. Thomas (Exeter) Board of Guardians.

TAYLOR, ARTHUR L., M.B., B.S. Edin., has been appointed Assistant Medical Officer at the Derby Borough Asylum.

THACKRAH, Miss M., M.B., B.S. Lond., has been appointed House Surgeon at the Royal Free Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BANGOR, CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House Surgeon. Salary £100 per annum, with board, washing, and lodging.

BARNSLEY, BECKETT HOSPITAL.—Second House Surgeon, unmarried. Salary £80 per annum, all found.

BATH ROYAL UNITED HOSPITAL.—House Surgeon. Salary £80 per annum, with board, residence, and washing.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Resident Medical Officer for six months. Salary at rate of £60 per annum, with board, residence, &c.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon. Salary £80 per annum, with board and washing.

BIRMINGHAM CITY ASYLUM, Winson Green.—Junior Assistant Medical Officer. Salary £150 per annum, with board, laundry, &c.

BRISTOL ROYAL INFIRMARY.—Throat, Nose, and Ear House Surgeon. Salary £75 per annum, with board, apartments, and washing.

BURY INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, residence, and laundry.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—Second House Surgeon for nine months. Salary £80 per annum, with board, residence, and laundry.

DENBIGH, DENBIGHSHIRE INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Assistant House Surgeon, unmarried, for six months. Salary at rate of £75 per annum, with board, apartments, laundry, &c.

DONCASTER, ROYAL INFIRMARY AND DISPENSARY.—Senior House Surgeon and Assistant House Surgeon, unmarried. Salaries £90 and £60 per annum respectively, with board, apartments, and washing.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £75 per annum, with residence, board, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Second Casualty Officer for six months. Salary at rate of £40 per annum, with luncheon and tea. Also Assistant Surgeon.

ENNISKILLEN, FERMANAGH COUNTY HOSPITAL.—House Surgeon. Salary £72 per annum.

GLASGOW SCHOOL BOARD.—Female Lecturers on Hygiene and Home Nursing.

HOLT, NORFOLK, GRESHAM'S SCHOOL.—Medical Officer. Salary £250 per annum.

HUDDERSFIELD ROYAL INFIRMARY.—Junior Assistant House Surgeon. Salary £60 per annum, with board, residence, and washing.

HULL ROYAL INFIRMARY.—Assistant House Surgeon. Salary at rate of £60 per annum, with board and lodging.

ILFORD URBAN DISTRICT COUNCIL.—Assistant Medical Officer of Health. Salary £250 per annum.

LEEDS GENERAL INFIRMARY.—Medical Tutor. Salary £125 per annum. Also Medical Registrar. Salary £25 per annum.

LEEDS PUBLIC DISPENSARY.—Honorary Physician.

LEICESTER INFIRMARY.—Honorary Surgeon.

LISCARD, CHESHIRE, WALLASEY DISPENSARY AND VICTORIA CENTRAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with apartments, board, and service.

LIVERPOOL, CANCER RESEARCH LABORATORY, The University.—Assistant. Salary £150 per annum.

LIVERPOOL EYE AND EAR INFIRMARY, Myrtle-street.—Honorary Assistant Surgeon.

LONDON FEVER HOSPITAL, Liverpool-road, Islington, N.—Resident Medical Officer. Salary £250 per annum, with board and residence.

LONDON TEMPERANCE HOSPITAL.—Assistant Resident Medical Officer for six months. Salary at rate of 50 guineas per annum, with board, residence, and washing.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Park-place, Cheetham Hill-road.—House Surgeon. Salary £100 per annum, with apartments and board.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood.—Honorary Dental Surgeon. Also Honorary Radiographer.

NAPSBURY, ST. ALBANS, MIDDLESEX COUNTY ASYLUM.—Assistant Medical Officer. Salary £160 per annum, with board, lodging, washing, and attendance.

NEWCASTLE-ON-TYNE, HOSPITAL FOR SICK CHILDREN.—Honorary Assistant Physician.

NORWICH, JENNY LIND INFIRMARY FOR CHILDREN, Unthank-road.—Resident Medical Officer (female). Salary £50 per annum, with board, apartments, and laundry.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—Pathologist. Salary £100 per annum. Also Clinical Assistants.

POPLAR AND STEPNEY SICK ASYLUM, Bromley, Middlesex, E.—Third Assistant Medical Officer. Salary £120 per annum, with rations, apartments, and washing.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Surgeon-in-Charge of Out-patient Department of Ear, Nose, and Throat.

READING, ROYAL BERKSHIRE HOSPITAL.—Second House Surgeon for six months. Salary £60 per annum, with board, lodging, and washing.

ROCHDALE INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and laundry.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Dental Surgeon.

ROYAL NAVAL MEDICAL SERVICE.—Fifteen Commissions.

ST. MARY'S HOSPITAL, London, W.—Casualty Physician. Salary £75 per annum.

SALFORD ROYAL HOSPITAL.—Honorary Dentist.

UNIVERSITY OF LONDON.—Examiners.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—Senior Resident Medical Officer. Salary £120 per annum, with board, residence, and washing.

WALSALL AND DISTRICT HOSPITAL.—House Physician and Casualty Officer. Salary £80 per annum, with board, residence, and laundry.

WESTMINSTER HOSPITAL (opposite Westminster Abbey).—Assistant House Physician for two months, non-resident, but board provided.

WHITTINGHAM, NEAR PRESTON, COUNTY ASYLUM.—Pathologist and Assistant Medical Officer. Salary £200 per annum, with board, apartments, and washing.

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—House Physician. Salary £80 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon for six months. Salary £80 per annum, with board, rooms, and laundry.

Births, Marriages, and Deaths.

BIRTHS.

FLINT.—On Oct. 14th, at Cliff House, Buxton, Derbyshire, the wife of Thomas Buxton Flint, M.R.C.S., L.R.C.P., of a daughter.

GRIFFIN.—On Oct. 19th, at Baldock, Herts, the wife of John P. Griffin, M.R.C.S., L.R.C.P. Lond., of a son.

MARRIAGES.

GRAHAM LITTLE—KAUFFMANN-KENDALL.—On Oct. 21st, Ernest Gordon Graham Little, M.D., B.A., F.R.C.P., to Sara Helen Kauffmann-Kendall, daughter of the late Maurice and of Mrs. Kauffmann-Kendall, of Chester-terrace, Regent's Park.

DEATHS.

BREAKEY.—On Oct. 21st, at Carlisle Mansions, Victoria-street, London, John Breakey, M.D., R.N., Inspector-General of Hospitals and Fleets (retired).

SIMPSON.—At 52, Queen-street, Edinburgh, on Oct. 25th, Dame Margaret Stewart Barbour, wife of Emeritus Professor Sir Alexander Russell Simpson, M.D. No flowers, by request.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A NEW GREEK MONUMENT TO ASKLEPIOS AND HYGIEIA.

AMONG the numerous specimens of Greek sculpture and the bronzes and statuettes that have for several years been in course of recovery from the wreck of a Roman ship discovered by the sponge fishers off Mahdia, in Tunis, has recently been found an Attic relief, of which we present a reproduction of a photograph. It is the latest obtained of a series of reliefs depicting the sacred banquet offered to Asklepios and Hygieia and is carved in marble. The scene shows six persons partly inside or in front of some pillared edifice, perhaps one of the porticos of the deity's temple, where he was supposed to appear to and heal the faithful. At the extreme right, and in front

of one of the pillars, is a young Neocoros bearing some kind of patera. To the left are a man, woman, and youth or girl, the last of the three being partly outside the shrine. The centre of the stele display Asklepios and Hygieia in greater proportionate size than the other four figures. The deity is half reclining upon a couch, the upper part of his body nude. He is about to drink from a large rhyton held in his right hand, whilst the left holds a saucer containing some kind of food. His eyes are lifted heavenward. He is bearded, and his abundant locks of hair support the calathos, a vase-shaped basket used as a headdress. Hygieia is seated upon a sort of dais, and is shown in profile with her face turned towards her father. Her hair is ornamentally gathered up to the head, leaving the neck bare. She wears a tunic and mantle. In one hand she holds a receptacle, doubtless for incense, and her feet are supported upon a stool. Before the couch of Asklepios is a table bearing the ritual meat or cakes for the banquet. Although no direct information has been derivable from the wreck as to whence its contents were obtained, archæologists have been able to show, from inscribed stones that were on board and from the date of certain objects, that the vessel left Greece soon after the sack of Athens, and of the Piræus, by Sylla. Several objects among the relics are known to have come from the navy yard there, where the sacred galleys, once part of the Athenian fleet, were housed; and classic authors especially speak of the booty the Roman legions took from the Piræus. At this port there was an Asklepieion frequented by mariners, and four stela, somewhat similar to this one from Mahdia, have been found upon its site. There can be but little doubt that this relief also comes from the Piræus, because the sunken galley has among its cargo inscriptions carried off from temples standing there. Moreover, the workmanship is not quite so good as was generally considered appropriate for the Asklepieion at Athens, so there is every reason to consider that it was taken from the shrine of the god of healing at the arsenal, from which emporium also were derived two bronze prow ornaments belonging to the ancient galleys housed there, which have also been found at Mahdia.

HEALTH OF THE GOLD COAST.

THE official report, just issued, on the Blue Book of the Gold Coast Colony for the year 1910, estimates the European population at 1830. The general population of the colony and its dependencies was returned in 1901 as 1,696,695, but, partly owing to reluctance on the part of the natives to be enumerated and partly to defective organisation, the Census was incomplete. There is no compulsory registration of births and deaths, but in the principal towns the burials are registered. The death-rate per 1000 amongst Europeans in 1910 was 27·18, as compared with 12·82 in the previous year, and the invaliding rate per 1000 was 43·75, as compared with 38·48. The causes of invaliding amongst European officials were: Malarial fever, 6; anæmia, 5; blackwater fever, 3; neurasthenia, 3; gastritis, 2; heart disease, 2; various, 11. Among non-officials: Malarial fever, 12; blackwater fever, 6; anæmia, 3; gastritis, 4; various, 17. No means exist of obtaining accurate statistics as regards the health of the natives, but from the data available it would appear that the sickness-rate for 1910 was less satisfactory than that of the previous year. In the early part of 1910 there were 10 cases of yellow fever, 9 of which were fatal, amongst Europeans in Seccondee. During the year 50 cases of sleeping sickness were treated in the different hospitals, and 11 deaths were recorded; the disease was more prevalent in Ashanti than in the colony. Glossina palpalis is reported to be present in most districts, and the possibility of an outbreak of sleeping sickness on the Gold Coast is now recognised, and efforts are being made to cope with the situation. In Ashanti there were several outbreaks of small-pox. The number of vaccinations performed throughout the Gold Coast was 25,590, of which 14,060 were successful. During the year 43,943 cases of disease were treated, of which 271 proved fatal. The most prevalent maladies were dysentery, malarial fever, rheumatism, venereal diseases, diseases of the eye and of the respiratory system, abscesses, skin diseases, and parasitic diseases. New hospitals have been completed at Tarquah, Akuse, and Winnebah, and a special fly-proof hospital has been built at Anum in the Volta district for the treatment of sleeping sickness and observation of suspects. The older hospitals still maintained are those at Accra, Seccondee, Cape Coast, Axim, Saltpond, Elmina, Quittah, and Addah.

A WARNING.

To the Editor of THE LANCET.

SIR,—It would, I think, be well to insert the following warning in your columns. A tall, well-developed man between 30 and 40 years of age, with ginger-coloured hair, and giving the name of Fitzgerald, called to see me the other day at 9.15 A.M. As my consulting-room was not available at the moment he was shown into the drawing-room. He was fairly well dressed and had a tweed cap. The story was that he was a doctor from Australia, had been in bad company the previous night, where he was robbed of watch and all his money. He had been drinking heavily the previous day. After he left a silver table-bell was missing. Information has been laid at the Marylebone police station.

I am, Sir, yours faithfully,

Weymouth-street, W. CHAS. W. CHAPMAN.

A SURGICAL RECORD.

ACCORDING to the *Allgemeine Medizinische Central-Zeitung* Professor Dr. Poppert recently performed his 2000th operation for the removal of gall-stones in the surgical clinic of the Giessen Hospital. This is supposed to be a record number—at all events for European hospitals.

CHRISTMAS GIFTS TO CRIPPLED CHILDREN.

Sir William Treloar writes to remind our readers of the annual distribution of hampers and clothing to poor crippled children of the metropolis which he has organised each Christmas for so many years past. Donations will be welcomed by him at 69, Ludgate Hill, London, E.C.

HYGIENE FOR BOYS.

A Naval Surgeon who wishes to give an hour's talk of a practical nature to boys of about 16 on their first joining the Navy, asks for information as to a small book or pamphlet likely to assist him in the matter; also whether suitable lantern slides are available. The intention is not to "talk morality," but to teach the boys to have respect for their bodies by learning something about them and their working.

MERCK'S ANNUAL REPORT.

WE have received an advance copy of this annual report, which contains a valuable record of progressive pharmaceutical chemistry and therapeutics. It gives a thorough presentation of the developments which have been announced during the 12 months under review. The present volume (Vol. XXIV.) comprises 380 pages of literary matter, and a feature on this occasion is the large space devoted to the therapeutic use of the cacodylates. We always find Merck's Annual Reports a source of useful and reliable information. Copies of the current report may be obtained from E. Merck, 16, Jewry-street, London, E.C.

A. M. Z.—1. The partnership would be responsible for the rent of the telephone. 2. The partnership, being the tenant of the groom's cottage, appears to be liable for the rates as well as for the rent.

ERRATUM.—Messrs. A. and M. Zimmermann point out that in our notice of "Atophan" in our last issue, the words "carbolic acid" were used when "carbonic acid" was intended.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced for October and November, 1911:—

April-October.—Rome Exhibition (United Italy's Jubilee).
May 3rd-Oct. 31st (Glasgow).—Scottish Exhibition.
,, 6th-Oct. 31st (Dresden).—International Hygiene Exhibition (British Section opened June 14th closed Oct. 16th).
,, 12th-Oct. 31st (London, Crystal Palace).—Festival of Empire Imperial Exhibition. (Profits to King Edward VII. Hospital Fund.)
September-November (Antwerp).—International Exhibition of Alimentation, Brewing, Wines, and Liqueurs.
Oct. 26th-28th (Rome).—Congress of the Italian Society of Laryngology, Otology, and Rhinology.
,, 31st-Nov. 4th (London, Royal Horticultural Hall).—Twenty-second Universal Cookery and Food Exhibition.
October (Paris).—First Congress of the International Medical Association for the Prevention of War.
Nov. 1st (opens) (Turin).—International Exhibition of Hygiene.
,, 1st-14th (London).—"The Englishwoman" Exhibition of Arts and Handicrafts.
,, 3rd-11th (London, Olympia).—Tenth International Motor Exhibition.
,, 9th-11th (Cape Town).—Congress of the South African Branch of the Royal Sanitary Institute.
,, 10th-25th (Manchester).—Smoke Abatement Exhibition.
,, 14th and 15th (Vienna).—Jubilee of Union of Austrian Dental Surgeons.
,, 21st-23rd (Montreal).—Canadian Public Health Association (First Annual Meeting).
November (Rome).—Fourth International Congress of Physical Education.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 15, Cavendish-square, W. (temporary address during building of new house).

FRIDAY.

LARYNGOLOGICAL SECTION (Hon. Secretaries—W. H. Kelson, Dan McKenzie), at 11, Chandos street, W.: at 5 P.M.

Cases

Will be shown by Dr. StClair Thomson, Dr. Kelson, and others.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION (Hon. Secretaries—J. H. Targett, W. W. H. Tate), at 11, Chandos-street, W.: at 8 P.M.

Dr. P. Cole: Broad Ligament Cyst of Müllerian Origin.
Dr. Lockyer and Mr. Turner: Cancer of Uterus and Ovary subsequent to Double Salpingectomy.
Dr. Hubert Roberts: Tuberculosis of Uterus.
Dr. Barris: Urinary Organs in Pyelo-nephritis of Pregnancy.
Dr. Macnaughton-Jones: (1) Rare Books from Prof. Klein (Munich); (2) Ovarian Fibroma with Cancer of Uterus; (3) Ovarian Cystoma of Unusual Size.
Dr. Inglis Parsons: Fibroma of Uterus with Cancer of Cervix.
Dr. Banister: Unusual Case of Chorion-epithelioma.

Short Communication:

Dr. T. Copeland Savage (Auckland, N.Z.): A Case of Full-term Extra-uterine Gestation. Laparotomy during Spurious Labour. Recovery of Mother with Living Child.

(N.B.—Please note that this Meeting of the Section will be held on FRIDAY.)

SECTION OF ANÆSTHETICS (Hon. Secretaries—Mrs. Dickinson Berry, H. J. Scharlieb): at 8.30 P.M.

Reports on Two Cases of Death Under Anæsthesia.

Short Communications:

Dr. W. J. McCardie: Notes on Cases showing Some of the After-effects of Chloroform.
Dr. J. F. W. Silk: Case of Pleurisy and Bronchitis after Open Ether.
Mr. Rowland Collum: Notes on a Troublesome Dental Case.
Mr. Bellamy Gardner: The Use of a Mouth Prop and Tongue Clip as a System of Anæsthesia.

(Members are invited to give a record of any interesting cases that have occurred in their practice.)

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, N.

THURSDAY.—4.15 P.M., Clinical Cases.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, Hammersmith-road, W.

FRIDAY.—8 P.M., Clinical Evening.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Mr. J. E. R. McDonagh: Clinique (Skin). 5.15 P.M., Lecture:—Dr. L. H. Pegler: On Some Nervous Affections of the Pharynx and Larynx, including Functional Aphonia.
TUESDAY.—4 P.M., Dr. W. J. Fenton: Clinique (Medical). 5.15 P.M., Lecture:—Dr. T. G. Stevens: Unusual and Excessive Hæmorrhage at Puberty and the Menopause.
WEDNESDAY.—4 P.M., Mr. L. H. McGavin: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. R. Jones: The General Medical Treatment of Early Cases of Insanity.
THURSDAY.—4 P.M., Mr. M. White: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. A. Wylie, Treatment of Middle Ear Disease by Hot Medicated Air.
FRIDAY.—4 P.M., Mr. L. Paton: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. Dr. Simson: Diseases of Women. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Armour: Abdominal Drainage.
TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 11.30 A.M., Mr. Etherington-Smith: Demonstration of Minor Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Davis: Diseases of the Ear. (Lecture III.)
WEDNESDAY.—10 A.M., Dr. Simson: Gynæcological Demonstration. Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. 2.30 P.M., Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Mr. Lloyd Williams: Etiology-Pathology and the Prevention and Treatment of Caries of the Teeth.
THURSDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12.15 P.M., Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Armour: Surgical Anatomy of Inguinal and Femoral Herniæ.
FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Abraham: Cases of Skin Disease.
SATURDAY.—10 A.M., Medical Registrar: Demonstration of Cases in Wards. Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. Bishop Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Mr. Turner: Surgery. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.30 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.
TUESDAY.—2 P.M., Operations. 3.15 P.M., Dr. R. Wells: Medicine. 2.15 P.M., Mr. R. Carling: Surgery. 4.15 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.
WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye. 2.15 P.M., Special Lecture:—Dr. F. Taylor: Acute Abdominal Pain.
THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 4.30 P.M., Special Lecture:—Mr. Walton: The Diagnosis of Upper Abdominal Lesions.
FRIDAY.—2 P.M., Operations. 2.15 P.M., Sir J. Rose Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.
SATURDAY.—10 A.M., Radiography. 11 A.M., Dr. A. Davies: Pathological Demonstration. 2 P.M., Operations. Out-patient Demonstration:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. R. Gillespie), 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson).
TUESDAY.—Clinic:—10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations. Clinics:—Surgical (Mr. Howell Evans); Gynæcological (Dr. A. H. Giles). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting) 4.30 P.M., Demonstration:—Dr. G. N. Meachen: Selected Skin Cases.
WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Dr. A. H. Pirie).
THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. H. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappel).
FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. R. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY.—3.45 P.M., Lecture:—Dr. J. Atkinson: Nose.
FRIDAY.—3.30 P.M., Lecture:—Mr. J. G. French: Some Points in Chronic Middle Ear Suppuration.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Mr. S. Scott: Peripheral Mechanism of Sound Perception.

FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. Ormerod: Cases from the Ward.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4 P.M., Lecture:—Dr. C. Wall: Asthma and Nasal Disease.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

TUESDAY.—6 P.M., Dr. W. Griffith: Bacteriology of the Skin.

THURSDAY.—6 P.M., Chesterfield Lecture:—Dr. M. Dockrell: Syphilis: History and Primary Invasi n (Constitutional and Local).—Eruption, Erythematous (I., Macular; II., Maculo-Papular).

ANCOATS HOSPITAL, Manchester.

THURSDAY.—4.15 P.M., Dr. E. B. Leech: The Medical Aspect of Gall-stones (Post-Graduate Clinic.)

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.).

TUESDAY (31st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London, (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.) Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

WEDNESDAY (1st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's 2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (2nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (4th).—Royal Free (9A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.), Hospital operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 25th, 1911.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Oct. 19	30·02	E.	...	74	64	49	56	56	Foggy
,, 20	29·74	S.	0·09	93	63	56	59	60	Raining
,, 21	29·62	S.	0·09	76	62	57	56	58	Cloudy
,, 22	29·04	S.W.	0·30	87	60	52	53	54	Raining
,, 23	29·58	W.	0·40	96	60	52	51	53	Cloudy
,, 24	29·57	S.W.	...	75	57	52	52	53	Cloudy
,, 25	29·29	W.	0·90	81	52	46	46	47	Cloudy

The following journals, magazines, &c., have been received:—Medical Chronicle, Annali di Medicina Navale e Coloniale, British Journal of Dental Science, Brain, Canadian Medical Association Journal, Journal of Physiology, Journal of Obstetrics and Gynæcology, Interstate Medical Journal, Yellow Fever Bureau, Archiv für Experimentelle Pathologie und Pharmacologie, Journal of Tropical Medicine and Hygiene, British Journal of Dermatology, Therapist, Pacific Medical Journal, Encyclopédie Médicale, St. Thomas's Hospital Gazette, Archives of Internal Medicine, Bulletin of the Johns Hopkins Hospital, Office International d'Hygiène Publique, Davos Courier, &c.

Communications, Letters, &c., have been received from—

A.—Messrs. Armour and Co., Lond.; Dr. T. Longmore Ashforth, Woodlands; Dr. W. D. Anderson, Oban; Messrs. Allen and Hanburys, Lond.; Anglo-American Pharmaceutical Co., Croydon; Dr. D. Anderson-Berry, Lond.; Messrs. Adlard and Son, Lond.; Sir Clifford Allbutt, Cambridge.

B.—Messrs. Blundell and Rigby, Lond.; Bath Royal United Hospital, Secretary of; Messrs. W. H. Bailey and Son, Lond.; Bury Infirmary, Secretary of; Surgeon J. Leslie Barford, R.N., Devonport; Mr. James Bell, Lond.; Dr. Barbier, Paris; Dr. Arthur G. Bagshawe, Lond.; Mr. Thomas Bell, Uppingham; Bristol General Hospital, Secretary of; Miss J. Barnby, Lond.; Dr. E. M. Brockbank, Manchester; Dr. G. S. Brock, Lausanne; Messrs. W. Ballantyne and Sons, St. Boswells; British Pharmaceutical Co., Lond.; Colonel Sir David Bruce, A.M.S., Lond.; Mr. J. Butterworth, Middleton; Messrs. J. Baker, Cooke, and Standen, Lond.; Mr. E. Bougault, Paris; British Nicotine Co., Lond.; British Oxygen Co., Lond.; Dr. G. S. Buchan, Hounslow; Dr. Philip Boobbyer, Nottingham; Miss M. F. Billington, Lond.

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E.—Dr. Richard Ellis, Lond.; Mr. Walter Edmunds, Lond.

F.—Dr. David Forsyth, Lond.; Messrs. Fannin and Co., Dublin; Messrs. Ferris and Co., Bristol; Dr. R. S. Frew, Lond.; Dr. Fieldhall, Lond.

G.—Mr. E. F. Glynn, Stratton St. Margaret; Grand Pump Room, Bath, Director of; Dr. K. M. Gibbins, Parkstone; Dr. A. E. Giles, Lond.; Dr. V. Ghazarian, Trebizond; Mr. J. Good, Tenbury; Dr. A. S. Gubb, Lond.; Dr. A. G. Gibson, Oxford.

H.—Mr. C. S. Hawes, Lond.; Huddersfield Royal Infirmary, Secretary of; *The Herb Doctor*, Southport; Mr. Oscar Hammerstein, Lond.; Dr. Reid Hunt, Washington; Dr. R. L. Hammond, Woodsboro; *The Hospital*, Lond., Editor of; Dr. Arthur G. Haydon, Lond.; Mr. J. Haddon, Lond.; Mr. A. J. Harmer, Lond.; Messrs. C. J. Hewlett and Son, Lond.; Mrs. Handcock, Lond.; Hospital for Sick Children, Newcastle-on-Tyne, Secretary of; Hull Royal Infirmary, Secretary of.

I.—Imperial Merchant Service Guild, Liverpool, Secretary of; Incorporated Association of Hospital Officers, Lond., Hon. Secretary of.

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